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APR 15 2003

DIV. OF OIL, GAS & MINING

ERRC-107-03

April 11, 2003

Jon Cherry
8315 West 3595 South
P.O. Box 6001
Magna, Utah, 84044-6001

Re: Kennecott North and South End Sites on the Environmental On-site Assessment list, status update.

Dear Mr. Cherry,

The Division of Environmental Response and Remediation (DERR), has enclosed a list of the outstanding north and south end Environmental On-site Assessment (EOA) sites and their current status. DERR's letter, dated January 13, 2003, addressed the status of other north end and Tooele County sites. Enclosed herein, is a copy of a site status designation that addresses all of the outstanding EOA sites known to DERR. The priority listing for these sites is unknown at this time, so the sites are listed chronologically by their identification number. Also enclosed is a comprehensive listing of each individual site, providing the conditions (if any) of the site status and a more thorough discussion of the site history (table).

EOA sites that have been designated a conditional "No Further Action" (NFA) based upon the timely submittal of information will be evaluated upon receipt and review of the documentation by DERR. For the sites that have been provided a conditional NFA status based upon compliance with various permit programs, Kennecott Utah Copper Company (KUCC) needs to stay in compliance with the permits over time. The current permits applicable to the sites herein were issued under the Ground Water Protection Program (GWPP) overseen by the Division of Water Quality (DWQ), the Utah Pollution Discharge Elimination System (UPDES) overseen by DWQ, air quality standards program overseen by the Division of Air Quality (DAQ), and the mining reclamation program overseen by the Division of Oil, Gas and Mining (DOGM). If KUCC fails to comply with the permit requirements, the corrective action plan listed within the permit is the regulatory response that should be applied. If KUCC fails to respond appropriately to the permit failure or ineffectually follows the corrective action plan, the site may be readdressed as an EOA project under CERCLA.

Characterization and remediation activities that are scheduled or will be scheduled for sites located on the north end can follow the same procedures listed in the 1995 North Facilities Soils Work Plan (NFSWP). At this time, the remedial standards for lead, arsenic, cadmium, and selenium listed in the NFSWP are deemed appropriate (based upon current information) as long as the intended future land


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use remains industrial in nature. If upon mine closure the future land use chosen is different then the current proposal, then KUCC is requested to ascertain the appropriate land use remedial standard from the recent United States Environmental Protection Agency Region VIII (EPA) North end Record of Decision. KUCC is then requested to contact DERR to inform our office of the proposed land use change and change of the remedial standard. If a contaminant of concern is detected during characterization of the site that is not discussed in the NFSWP, KUCC is directed to contact DERR to determine the appropriate measures to take.

Some sites within the listing that are located on the north end have been provided a final NFA designation based upon current information and the currently proposed future land use (industrial). If KUCC pursues a different land use in the future, DERR requests that KUCC contact DERR to discuss the implications of this and to ascertain if there is a need to change the land use standards.

If you have any further questions, feel free to contact me at (801) 536 - 4282.

Sincerely,



Douglas C. Bacon, Project Manager
Division of Environmental Response and Remediation

DCB/jdp

Enclosure(s)

cc: Dr. Eva Hoffman, U.S. Environmental Protection Agency, Region VIII
Ed Hickey, Environmental Scientist, Division of Water Quality
Daniel Hall, Environmental Scientist, Division of Water Quality
Kim Shelley, Environmental Engineer, Division of Water Quality
Rob Leishman, Environmental Scientist, Division of Air Quality
Tom Munson, Environmental Scientist, Division of Oil, Gas and Mining
Mary Pat Buckman, Salt Lake Valley Health Department
Nancy Kang, Utah Office Chief, U.S. Army Corps of Engineers
Patti Pavey, M.S., Director, Salt Lake Valley Health Department
Myron Bateman, EHS MPA Health Officer, Tooele Health Department

**DERR Comments on the Site Status for Various Northend Environmental On/Off-site
Assessment Projects**

Remaining north and south end EOA sites:

(1) Barney's Canyon Historic Facilities (ID#40.19): Site was provided a conditional "No Further Action" (NFA) status by DERR on April 30, 1998. A notation in the letter states that the site is used for current operations. KUCC is requested to maintain compliance with DWQ's permit requirements.

(2) Bingham Canyon and Camp Floyd Railroad (ID#40.20): This site was excluded from the overall listing package for the KUCC South Zone site, on September 30, 2002. The site has two portions to it; one section is located on KUCC property, the other section is located off KUCC property. The off-site portion of the site has changed ownership over the years and the current property owner did not grant access to the site during the Bingham Creek cleanup project to KUCC at that time. DERR and EPA have agreed to set this portion of the site aside for future investigation under a separate enforcement agreement with the appropriate potential responsible party (PRP).

A portion of the site is located on KUCC property and has not been subsumed by the waste rock dumping activities in Bingham Canyon. At this time, DERR has decided to keep this portion of the site open under the EOA list. DERR requests KUCC to address this portion of the site per the Remedial Design/Remedial Action (RD/RA) requirements listed in the Northend Record of Decision (ROD). Please copy DERR on the characterization and remedial documentation for our review and approval. The site status for this portion will be reevaluated upon receipt and review of the requested documentation.

(3) Copper Belt Railroad (ID#40.22): According to Dr. Eva Hoffman's (U. S. Environmental Protection Agency, Region VIII) Historic Sites Background (May 2002), several shortline railroads were built in Bingham Canyon and the Bingham pit, around 1900. This line originated in the old town of Bingham and extended up to the Jordan, Commercial and Telegraph mines. The railroad line has been subsumed over time by the expanding pit operations. At this time, DERR is designating this site a final NFA status, because the site has been subsumed by current mining operations and is not distinguishable against other mining waste and products.

(4) Denver and Rio Grande - Low Line and Cuprum Yard (ID#40.23): According to Dr. Hoffman (May 2002), the Denver and Rio Grande extended their line by building a line from the Lead Mine to the south in the foothills, around a horseshoe curve, and then back up into the canyon around 1906. The line went up into the canyon to a wide flat area where the railroad built a staging yard called Cuprum Yards. The line was sold to Utah Copper in 1925 because the tracks were rarely used. Current mining operations in the pit and the waste rock dump extending down Bingham Canyon are suspected to have subsumed the original grade and yard area. Accordingly, DERR is designating this site a final NFA status.

(5) Denver and Rio Grande - High Line and Cuprum Heights (ID#40.24): According to Dr. Hoffman (May 2002), the Denver and Rio Grande Railroad built its High Line to serve Utah Copper's pit operations in 1906. The company acquired easements along the surface of Ely Gulch for its roundhouse and track facilities and called the location Cuprum Heights. The site was located above the canyon and accessible by stairs from Bingham City Hall. The rail line and roundhouse areas are suspected to have been subsumed by current mining operations in the pit

and the waste rock dump being extended down Bingham Canyon. Accordingly, DERR is designating this site a final NFA status.

(6) Bingham and Garfield Railroad, Bingham Yard, Auxiliary Yard (ID#40.25): According to Dr. Hoffman (May 2002), Utah Copper created its own railroad subsidiary (the Bingham and Garfield Railroad) in 1911, completing tracks between the Bingham area and the Magna Mill. The line was approximately 20 miles long and included four tunnels in the canyon and three trestles over the Dry Fork and Markham gulches. The main assembly yard was located between Carr Fork and Markham Gulch bridges, with an auxiliary yard located south of Carr Fork. The line was largely abandoned in 1948 when a new line solely dedicated to shipping KUCC ores was constructed. This rail line corridor is potentially the location of the current tailings pipeline corridor. At this time, the site will remain open under the EOA project. Upon determination of the site location, KUCC is directed to document the characterization and remedial (if necessary) activities and report on both to DERR. Upon receipt and review of these reports, DERR will reevaluate the site status.

(7) Other Copperton Dumping Areas (ID#49.00b): According to Dr. Hoffman (May 2002), Utah Copper used at least two other dumping locations for its mill tailings besides the area along Fifth East in Copperton, Utah. The company constructed one dump area at the Shovel Placer, now the location of the Precipitation Plant (ID#81.00). A few other locations have not been pinpointed. At this time, the site will remain open under the EOA project. KUCC is requested to verify the location of each additional dump area (see historic sites table for additional information) and submit maps delineating their locations. KUCC is requested to characterize these areas and determine if there is a need to perform remedial action based upon the potential risk due to surrounding land uses. The characterization and remedial activities are to be reported to DERR for review. Upon receipt and review of these documents, DERR will reevaluate the site status.

(8) Revere Switch Tailings Pond (ID#50.00): An NFA site status is recorded for this site in a 1998 revised site-listing chart. The site status was designated pursuant to the Bingham Creek Record of Decision (1998). DERR requests some assistance from KUCC to determine if there were any conditions applicable to the site status for this site. Please inform DERR of any.

(9) Experimental Wetlands (ID#57.06): According to Dr. Hoffman (May 2002), an experimental wetland was located above the old Town of Lark and was operational from 1995 to 1998. The wetland was supplied water that had a sulfate concentration of 1200 ppm. The supply of water was removed and the wetland was allowed to dry up. According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), this wetland was used as part of a treatment experiment. This wetland area has currently been replaced with open range vegetation and the area has been reclaimed. According to Mr. Cherry, there is an ongoing wetland experiment east of the old Town of Lark, which receives water with an approximate sulfate concentration of 1200 ppm. An inspection by DERR during 2001 found the wetland to be in fairly good shape. At this time, DERR is designating this site a conditional NFA status. KUCC is directed to continue to manage the incoming water to prevent the migration of elevated sulfate concentrations into the valley aquifer or surface water drainages.

(10) Utah Metals Company (ID#64.01): According to Dr. Hoffman (May 2002), a 1909 publication of the Bingham Commercial Club indicated that the Utah Metals Company had a desire to build a mill near the new Tooele smelter and run a tunnel from the Carr Fork area to it. According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), this project did not go beyond a conceptual level. Currently, there are no structures in the area of the proposed site and there is no

information about the project beyond the stated reference. Accordingly, DERR is designating the site with a final NFA status.

(11) Water Supply Tunnel Dump (a.k.a. Middle Canyon Dump) (ID#67.00): A final NFA site status was previously designated to this site in the DERR letter dated June 11, 2002. Continued site management over time to prevent the erosion of the dump face was originally suggested by KUCC, and agreed to by DERR. An inspection of the dump was to take place during the spring of 2002. DERR in the June 11, 2002 letter requested a copy of this report, which to date has not been received. Please deliver a copy of this inspection report and any others since then to DERR, for our review.

(12) Magna Leaching Facility (ID#69.00): According to Mr. Tom Nanini (KUCC, Sept. 2002), the only remaining structures of the Magna Leaching Facility are the Effluent Storage Tanks which are used to store and supply water to the smelter power plant. The tank bottoms are made of concrete and are suspended above the ground surface. The area around the tanks is used for storage of miscellaneous items like shipping pallets, scrap metal and electrical transformers. The site was originally designated a conditional NFA status (DERR letter dated January 16, 1998) pursuant to cleanup of the site under the general requirements of the North Facilities Soils Work Plan (NFSWP).

At this time, DERR is extending the conditional NFA status to include the following requirements: (1) demolition of the existing tanks upon cessation of operations, (2) characterization and remediation (if necessary) of the underlying soils and submittal of the reports on these activities to DERR, (3) determination of the contents of the transformers, containment status of the transformers and cleanup of soils around the transformers (if necessary), and (4) investigation and cleanup of miscellaneous spills as needed.

(13) Boston Consolidated Mill (ID#71.00): The site was originally provided a conditional NFA in a DERR letter dated July 2, 1998. This conditional status required KUCC to continue a monitoring program to discover and evaluate areas of as yet unknown discolored soils. The site had been reclaimed except for the areas under the current administration buildings and shops.

At this time, DERR is extending the conditional NFA status to this site. KUCC is required upon cessation of operations and demolition of site infrastructure, to characterize the site and remediate (if necessary) on-site areas that have been impacted by previous milling operations. Upon receipt and review of the characterization and remediation reports, DERR will reevaluate the site status.

(14) Reagent Stills (ID#71.01): KUCC's *North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B – Summation Report* May 2002, states that analysis of the post-removal and post-reclamation samples demonstrated that underlying soils and existing surface soils met the Industrial Land Use (ILU) standards established in the NFSWP. At this time, DERR is designating this site a final NFA status.

(15) Lime Kilns – (ID#71.020): The leaching bays once used at the Magna Leaching facility remain in use as process water storage areas for the smelter. An asphalt pad covers the remainder of the site. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to maintain compliance with DEQ permits over smelter operations, maintain the integrity of the asphalt cap to prevent the migration of underlying contaminated soils and infiltration of water, and maintain the overall integrity of the site.

(16) Lime Slacking Plant – (ID#71.030): This site is located in the same location as the Lime Kilns (ID#71.020). The leaching bays once used at the Magna Leaching facility remain in use as process water storage areas for the smelter. An asphalt pad has covered the remainder of the site. At this time, DERR is designating a conditional NFA status to this site. KUCC is requested to maintain compliance with DEQ permits over smelter operations, maintain the integrity of the asphalt cap to prevent the migration of underlying contaminated soils and infiltration of water, and maintain the overall integrity of the site.

(17) Iron Foundry (ID#71.040, a.k.a. A10): KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B – Summation Report May 2002, states that analysis of the post-removal and post-reclamation samples demonstrated that underlying soils and existing surface soils met the ILU standards established in the NFSWP. At this time, DERR is designating this site a final NFA status.

(18) West Debris Site (ID#71.050, a.k.a. A01): KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B – Summation Report May 2002, states that analysis of the post-removal and post-reclamation samples demonstrated that underlying soils and existing surface soils met the ILU standards established in the NFSWP. At this time, DERR is designating this site a final NFA status.

(19) Railroad Debris Site (ID#71.060, a.k.a. A11): KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B – Summation Report May 2002, states that the site was characterized. One sample was collected on 0.05 acres and the analysis of the sample determined that the surface soils met the ILU standards. At this time, DERR is designating this site a final NFA status.

(20) Crucible Site (ID#71.070, a.k.a. A04): KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B – Summation Report May 2002, states that analysis of the post-removal and post-reclamation samples demonstrated that underlying soils and existing surface soils met the ILU standards established in the NFSWP. At this time, DERR is designating this site a final NFA status.

(21) Arthur Second Line Ditch (ID#71.080): KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B – Summation Report May 2002, states that the characterization samples detected no concentrations of the contaminants of concern (COCs) above the ILU standards. No removal activities were performed. At this time, DERR is designating this site a final NFA status.

(22) Leak In Pipeline Soils (ID#71.090): According to a KUCC interoffice memorandum from Mr. Tom Nanini to the project file (May 19, 1995), an area impacted by yellow tailings material near the Arthur Central Shops pipeline corridor was sampled on May 19, 1995. One composite sample was collected in the near surface soils. The analytical results indicated low concentrations (0.79 ppm – cadmium, 107 ppm – lead) of cadmium and lead, to non-detect concentrations for arsenic and selenium. The memorandum does not discuss any further remedial activities. At this time, DERR is designating this site with a conditional NFA status. KUCC is requested to explain if the impacted area was remediated or reclaimed and, if so, where the tailings impacted material was exported too. Upon receipt and review of the post-removal report, DERR will reevaluate the site status.

(23) Black Rock Tailings Pond (ID#72.00): DERR, in a letter dated July 14, 1998, designated this site with an undefined NFA status because the slag tailings material had been characterized as un-leachable and the cap that was constructed was designed to prevent wind erosion and to establish a vegetative cover. At that time, the current land use of the site was a lay down yard. At this time, DERR believes that the site status should be defined as conditional. Future land use of the site may necessitate the removal of the slag material if the land use intended is something other than industrial. DERR strongly suggests that KUCC maintain the cap to prevent erosion of the soils and infiltration of water. Upon development, KUCC is requested to determine (if needed) the appropriate measures to mitigate any risk from the slag tailings material posed because of the proposed land use. If cleanup activities are pursued, KUCC is requested to submit the appropriate documents to DERR for review.

(24) Smelter Slag (ID#73.00): A DERR letter dated January 16, 1998 designated this site with a conditional NFA status. At that time, DERR requested KUCC to: (1) provide an update on Union Pacific's slag lease, and (2) provide an update on the slag removal on both the north and south sides of I-80, because a then recent KUCC submittal did not discuss the removal along the south side. It was also requested the KUCC provide a timetable for the removal of material that fell under the NFSWP AOC.

A KUCC memorandum dated January 7, 2000 from Mr. Jon Cherry, P.E. discusses the leachability of the slag material located on the north end. The memorandum concluded that: (1) even if the slag were not a Bevill exempt material, it would not be considered a hazardous waste because the TCLP results did not exceed the hazardous characteristic limits for the COCs, (2) under normal weathering conditions, as simulated by SPLP analysis, none of the COCs in the slag are leachable in concentrations above the analytical method detection limit, and (3) slag left in the environment will not present a long-term threat to human health or the environment.

Based upon this information, DERR is extending the conditional NFA status. DERR again requests KUCC to provide an update on the Union Pacific's slag lease. If the removal of the slag material along the north and south sides of I-80 is completed, please provide the post-remedial report for review. Upon receipt and review of the report, DERR will reevaluate the site status.

(25) Last Chance Smelter Pond (ID#74.00): DERR previously designated this site with a conditional NFA status in a letter dated July 2, 1998. At that time, DERR noted that the original ponds had been reclaimed. Ongoing monitoring of the new industrial water ponds and the associated inflow pipes was required as leaks and overflows had occurred. All spills were to be reported to DWQ pursuant to the permit requirements. At this time, the site status will remain the same. While in operation, KUCC is required to remain in compliance with all permit restrictions applicable to the new ponds and inflows and continue to report spills to DWQ. Upon cessation of operations and demolition of site infrastructure, KUCC is requested to characterize the site and perform remedial activities on impacted media, if necessary. Upon receipt and review of the reports on these activities, DERR will reevaluate the site status.

(26) Standby Fuel Station (ID#76.010): Site was designated a final NFA status by DERR in 1998.

(27) Chevron Fertilizer Plant (ID#77.010): According to Dr. Hoffman (May 2002), as part of their North Tailings Pond expansion project, KUCC acquired the property comprising this site. Kennecott was reported to have determined that several of the trace metals and radionuclides would migrate from the gypsum material in the presence of tailings water after the site was buried. Upon acquisition, historic wastes were removed from the site by removing the soils.

According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), the water that appears at the toe ditch of the current North Tailings Impoundment is collected and directed to KUCC's permitted outfall. All current DWQ UPDES permit restrictions are met at the outfall. According to Mr. Cherry, the U.S. Army Corp of Engineers (USACE) is in the process of approving the expansion project and reducing the frequency for monitoring requirements. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to maintain compliance with DWQ's UPDES and ground water permits and USACE's 404 permit restrictions.

(28) Morton Salt Ponds (ID#77.020): According to Dr. Hoffman (May 2002), as part of their North Tailings Pond expansion project, KUCC acquired the property comprising this site. Upon acquisition, historic wastes were removed from the site by removing the soils. Kennecott agreed to remove the following wastes: (1) PCB containing materials, (2) asbestos containing wastes, (3) containerized wastes, and (4) materials in the landfill discovered during the characterization of the property. Kennecott reported that the processing plant was demolished in 1993 and the salt evaporator ponds and crystallizer ponds were subsumed by the tailings pond expansion in 1997. It is reported that residues of salt have begun to dissolve into the seeping tailings water and localized ground water, there upon entering the canals at the toe of the new impoundment which is used to collect these waters.

According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), the water that appears at the toe ditch of the current North Tailings Impoundment is collected and directed to KUCC's permitted outfall. TDS concentrations have begun to rise in the effluent water, but all current DWQ UPDES restrictions are met at the outfall. According to Mr. Cherry, the USACE is in the process of approving the expansion project and reducing the frequency for monitoring requirements. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to remain in compliance with DWQ's UPDES and ground water permit and USACE's 404 permit restrictions.

(29) Wetlands Mitigation Area (ID#77.030): This site listing is composed of six separate wetland parcels (individually listed below). Each property was acquired by KUCC to assist the company in offsetting the use of wetland areas during the expansion of the tailings impoundment. According to Dr. Hoffman (May 2002), in 1995 KUCC purchased additional properties near their initial wetlands mitigation area to allow them to more effectively manage the restored wetlands without impacting neighboring property owners. According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), the USACE is in the process of releasing KUCC from the majority of the 404 permit requirements. However, continued monitoring of the six separate wetland parcels at a lesser frequency will still take place as part of KUCC's continued RD/RA activities. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to continue to maintain compliance with USACE's 404 permit requirements and continue to monitor the wetland parcels, as prescribed in the 404 permit update and as required by CERCLA under RD/RA. Please refer to the specific conditions for each mitigation area, as listed below.

(30) Wetland Mitigation Area – Morton Salt Land (ID#77.031): This area was owned by Morton Salt consisted of four parcels totaling 773 acres. Two of these parcels abut the existing wetlands mitigation area on the west. Mud and salt flats, marshes and prairie fields, characterize the property. An environmental assessment of the property discovered garbage and debris on-site, a large acetylene tank that had washed ashore and a large abandoned cattle barge; there was no evidence of hazardous substances or spills. As part of the 404 permit issued by the USACE, KUCC was required to monitor the area to determine if there was any impact to the wetland habitat from hazardous substances. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to continue to maintain compliance with USACE's 404 permit

requirements and continue to monitor the wetland parcels as prescribed in the 404 permit update and as required by CERCLA under RD/RA.

(31) Wetland Mitigation Area – Bothwell and Swaner Land (ID#77.032): This area was owned by the Bothwell and Swaner Company and was owned by the Bothwell family since the early 1900's. The parcel, comprising about 200 acres, was used by the Bothwell family for grazing cattle. The property consists of mud flats, salt flats, and prairie fields. The land was investigated and found to be undisturbed except for limited areas with garbage and other debris on-site. The Goggin Drain transects the property and there was evidence of 4-wheel drive vehicle use. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to continue to maintain compliance with USACE's 404 permit requirements and continue to monitor the wetland parcels as prescribed in the 404 permit update and as required by CERCLA under RD/RA.

(32) Wetland Mitigation Area – Heughs Creek Associates Land (ID#77.033): This property was land formerly owned by Heughs Creek Associates, and totaled 25 acres (three parcels). The parcels were acquired by Heughs from three separate individuals Briquet, Bagley, and Hines, and were intended to be developed for commercial waterfowl hunting grounds. During characterization of the site, evidence of 4-wheel drive use and hunters was found. Garbage, debris, and evidence of a past fire were also discovered. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to continue to maintain compliance with USACE's 404 permit requirements and continue to monitor the wetland parcels as prescribed in the 404 permit update and as required by CERCLA under RD/RA.

(33) Wetland Mitigation Area – Blackhawk Pond (ID#77.034): The Blackhawk Duck Club constructed Blackhawk Pond in the 1960s and 1970s by the construction of dikes. Water was diverted from the North Point Consolidated Canal via a ditch on the east side of 8800 West. When the GSL flooded in the 1980s the duck club abandoned the property. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to continue to maintain compliance with USACE's 404 permit requirements and continue to monitor the wetland parcels as prescribed in the 404 permit update and as required by CERCLA under RD/RA.

(34) Wetland Mitigation Area – North Point Consolidated Canal (ID#77.035): The North Point Consolidated Canal (NPCC) originates in the Salt Lake City area as a diversion from the Surplus Canal; the water originates from the Jordan River. Brighton Canal water is also diverted into the NPCC. The NPCC directs water through the mitigation area and then into the GSL. Because of upstream water right holders, the canal has little to no flow currently. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to continue to maintain compliance with USACE's 404 permit requirements and continue to monitor the wetland parcels as prescribed in the 404 permit update and as required by CERCLA under RD/RA.

(35) Wetland Mitigation Area – Goggin Drain (ID#77.036): The Goggin Drain receives water diverted from the Jordan River, via the Surplus Canal. The drain is used to reduce flows of the Jordan River through Salt Lake City. The water is fast flowing and sometimes floods into shallow depressions located between the drain and Blackhawk Pond. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to continue to maintain compliance with USACE's 404 permit requirements and continue to monitor the wetland parcels as prescribed in the 404 permit update and as required by CERCLA under RD/RA.

(36) Bingham Pit Rail Operations (ID#79.010): According to Dr. Hoffman (May 2002), rail operations in the pit began using steam switchers to haul ore from the pit to the Denver and Rio Grande yards. In 1928, the rail operations in the pit were electrified. The constant relocation of the electrical towers became costly and all the tracks were removed from the upper half of the pit by 1963. The entire line was switched over to use diesel locomotives in 1979. By 1983, the rail operations in the pit had ceased to operate except for one spur from the loading area through the tunnel to Copperton Yard. Several tunnels were dug historically to allow the haul trains to access the pit operations; the pit has subsumed most. The one remaining tunnel (Tunnel 5490, ID#125.00b) is currently used to transport the ore material from the pit to the Copperton Concentrator, via a conveyor belt system. Pit rail operations have been subsumed by the increasing size of the pit, over time. At this time, DERR is designating this site a final NFA status because the in-pit rail operations have been subsumed by the mining activity. The current rail line spur from the New Ore Loading Area (ID#79.01a) to the Copperton Yard is considered part of the Railroad Right-of-Ways site (ID#145.00) and will need to be addressed as part of that site.

(37) New Ore Loading Area (ID#79.01a): According to Dr. Hoffman (May 2002), as of spring 2000 ore trains no longer entered the pit to get loads of ore destined for the Bonneville Crusher on the north end. Instead the mine dump trucks carry the ore out of the pit and down the haul road in the former Bingham Canyon to an artificial cliff near the intersection of Dry Fork and Bingham Canyon. The ore is then dumped down the face of the cliff and loaded into the ore railcars for shipment to the Bonneville Crusher and Magna Concentrator. During a site investigation (April 2002), Mr. Jon Cherry, P.E. (KUCC) stated that the rail ore shipment operation had ceased because the Bonneville Crusher and Magna Concentrator had been shut down. The infrastructure was left in place along the railroad, in case those two operating facilities were started back up.

At this time, the site will remain open. KUCC is requested to demolish site infrastructure upon cessation of rail shipments. KUCC is requested to characterize the site and perform remedial activities (if necessary). Reports on these activities should be submitted to DERR for review. Upon receipt and review of the characterization and remedial reports, DERR will reevaluate the site status.

(38) Copperton Rail Yard (ID#79.020): According to Dr. Hoffman (May 2002), the Copperton Rail Yard was built in 1946-1948 when KUCC constructed its dedicated ore haulage line. Trains were staged here in preparation for delivery to the north end milling operations. Spills periodically took place either through overloaded cars being moved or runaway trains. During a site inspection (April 2002), DERR determined that the yard bed is comprised of slag material and spills of ore are certainly suspected.

At this time, the site will remain open. KUCC is requested to demolish site infrastructure upon cessation of rail shipments. KUCC is requested to characterize the site and perform remedial activities (if needed). Characterization and remedial activity reports should be submitted to DERR for review. Upon receipt and review of the characterization and remedial reports, DERR will reevaluate the site status.

(39) Precipitation Plants in Copperton (ID#81.00): DERR provided direction for the cleanup activities at this site in a letter dated May 3, 2002. At this time, the site will remain open. KUCC is requested to demolish site infrastructure and follow up with a characterization of the site to determine the extent of impact to soils and ground water. Upon characterization of the site, KUCC is requested to submit a remedial design plan for review and approval by DERR. The plan should be based upon the site characterization information and proposed land use. Upon

completion of the remedial activities, KUCC is requested to submit the cleanup report to DERR. Upon receipt and review of these reports DERR will reevaluate the site status.

(40) Copperton Concentrator (ID#82.00): This is a current operating facility under the oversight of the DWQ through a ground water permit, and the DOGM under their mine reclamation program. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to maintain compliance with the permits from DWQ and DOGM. Upon cessation of operations, KUCC is requested to demolish site infrastructure, characterize and remediate the site (if necessary), and report on these activities. Upon receipt and review of the reports, DERR will reevaluate the site status.

(41) Yellow Cake Plant (ID#83.00): A final NFA status was designated by DERR in a letter dated July 6, 1998. The KUCC metals characterization report and Energy Fuels investigation report addressed the concerns relating to suspected metal and radioactive contamination.

(42) West Side Disposal Area (Dry Fork) (ID#89.00): This was an active dumping area for waste rock material from the Bingham Pit. Currently, the area does not receive new material. The dump was leached by the application of barren leach water. The leach water was collected at the base of the dump and treated in the Precipitation Plant. The leaching activity lead to a contaminated plume of water suspected to be of the same quality as the Zone A plume located in the Southwest Jordan Valley aquifer. The leaching operation ceased in 2001, but the plume of contaminated ground water is emanating from the dump. The Dry Fork plume is under current investigation by DWQ and KUCC has been directed to develop a corrective action plan pursuant to the ground water permit requirements over this site. At this time, the site will remain open while DWQ works with KUCC to develop a corrective action to address the Dry Fork plume. Upon approval of the corrective action plan by DWQ, and the successful implementation of the corrective action requirements by KUCC, DERR will reevaluate the site status.

(43) Solvent Extraction and Electrowinning Pilot Plant (ID#89.010): According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), a pilot scale leaching project was constructed on top of the Dry Fork dump area. A leaching pad was established with a triple liner protective system underneath it. Intermediate ore was placed on top of the pad and water was applied to the ore. The leachate was collected within a self-contained system and sent to the electrowinning plant for copper extraction. The site is located upgradient of the Bingham Cutoff Wall and is within the DWQ permitted area of Bingham Canyon. At this time, DERR is designating this site with a conditional NFA status while DWQ works with KUCC to develop a corrective action to address the Dry Fork plume. Upon approval of the corrective action plan by DWQ, and the successful implementation of the corrective action requirements by KUCC, DERR will reevaluate the site status. KUCC is requested to maintain compliance with DWQ's permits over the operation in Bingham Canyon and Dry Fork.

(44) Bluewater I North Repository (ID#90.00): This is an operating facility used to store waste material from various cleanup activities performed on the south end. Tailings from the Bingham Creek removal, Robbe Cells, and Cemetery Pond were placed in the repository then covered with clay and topsoil and revegetated. The capacity of the repository is reported to be approximately 750,000 yards.

Currently, the site has been proposed for use as the storage facility for soils removed from developable lands in and around the City of Herriman, for roughly the next five years (offer expires October 1, 2007). The site is permitted by DWQ under the Ground Water Protection Program. At this time, DERR is designating the site a conditional NFA status. KUCC is

requested to maintain compliance with DWQ's permit restrictions. Upon cessation of dumping activities, KUCC is requested to submit a closure plan for the repository to DERR for approval. Upon completion of the closure work, KUCC will need to submit a final report that discusses the closure activities. Upon receipt and review of the closure report, DERR will reevaluate the site status.

(45) Bluewater II Repository (ID#91.00): This site is located just south of the Bluewater I North Repository. The repository was built to contain tailings from the Bingham Creek Phase II and Lark removal projects. The repository has a capacity of four million yards. The site is permitted by DWQ under the Ground Water Protection Program. At this time, DERR is designating the site a conditional NFA status. KUCC is requested to maintain compliance with DWQ's permit restrictions. Upon cessation of dumping activities, KUCC is requested to submit a closure plan for the repository to DERR for approval. Upon completion of the closure work, KUCC will need to submit a final report that discusses the closure activities. Upon receipt and review of the closure report, DERR will reevaluate the site status.

(46) Copperton Concentrator – Process Water Reservoir (ID#93.010): This is a current operating facility under the oversight of the DWQ through a ground water permit, and the DOGM under their mine reclamation program. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to maintain compliance with the permits from DWQ and DOGM. Upon cessation of operations, KUCC is requested to demolish site infrastructure, characterize and remediate the site (if necessary), and report on these activities to DERR. Upon receipt and review of the reports, DERR will reevaluate the site status.

(47) Slag Crushing Facility (ID#96.010): A conditional NFA status was provided to this site by DERR in a letter dated July 2, 1998. The site is an active facility permitted by DEQ. At this time, the site status will remain the same. KUCC is requested to maintain compliance with the appropriate DEQ permits. Upon mine closure and cessation of operations, the site infrastructure is to be demolished (unless otherwise needed). KUCC is requested to characterize and remediate (if necessary) the site and report on these activities to DERR. Upon receipt and review of these reports, DERR will reevaluate the site status.

(48) Modernized Smelter Footprint (ID#96.020): A conditional NFA status was provided to this site by DERR in 1998. The site is an active facility permitted by DEQ. KUCC performed a soil characterization investigation in 1992 and determined that soils on-site were elevated for a few metals (refer to Dr. Hoffman's *Historic Site Background*, May 2002). Soils with elevated concentrations of arsenic and lead were removed prior to the construction of the current smelter. A second investigation was performed by KUCC just prior to construction, but was not overseen by EPA or DEQ. This investigation detected soils with elevated concentrations of lead and arsenic. However, after the second investigation KUCC opted to not remediate the contaminated soils prior to construction since they would be capped by concrete and asphalt during construction.

At this time, DERR is extending the conditional NFA status. KUCC is requested to maintain compliance with the appropriate DEQ permits. Upon mine closure and cessation of operations, the site infrastructure is to be demolished (unless otherwise needed). KUCC is requested to characterize and remediate (if necessary) the site and report on these activities to DERR. Upon receipt and review of these reports, DERR will reevaluate the site status.

(49) Smelter Power House – Old Powerhouse (ID#96.08, a.k.a. S08-S300): KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B – Summation Report dated May 2002, states that 3,677 cubic yards of contaminated soil were removed from the site. A portion of the contaminated soil was left in place and capped. At this time, DERR is designating the site a conditional NFA status. KUCC is requested to provide a map that delineates the location of the capped area. KUCC is also requested to maintain and protect the cap against breaches and infiltration of water.

(50) Smelter Demolition Projects (ID#96.090): The following sites that partially make up this general site heading, S08-S500, S200, S400, S300, were provided an individual site status in DERR's letter dated January 13, 2003. The remaining individual sites that make up this general site heading (S08-S600, S806, S812 and S813, 96.01, 96.11, 96.13, 96.14, 96.15, 96.17, 96.18, 96.19, 96.20, 96.21a, 96.21b, 96.22, 96.23, 96.24, 96.25, 96.26, 96.27, 96.28, 96.29, 96.30, 96.31, 96.31a, 96.31b, 96.32c, and 96.31d) are discussed below. Please refer to the individual sites for each site's status.

(51) Acid Plant #8 (ID#S08-S600): KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B – Summation Report dated May 2002, states that analysis of the post-removal samples demonstrated that the soils with elevated concentrations of the COCs were removed except in one location. This area was capped because the arsenic and lead concentrations exceeded the ILU standards. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to provide a map that delineates the location of the site and the capped area. KUCC is also requested to maintain and protect the cap against breaches and infiltration of water.

(52) Roundhouse (a.k.a. Roundhouse Footprint) (ID#96.01, a.k.a. S08-S806): KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B – Summation Report dated May 2002, states that air-cooled slag foundation fill was capped on-site because the material exceeded the ILU standard for arsenic. Analysis of the post-reclamation samples demonstrated that the current surface soils meet the ILU standards for all COCs. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to provide a map that delineates the location of the site and the capped area. KUCC is also requested to maintain and protect the cap against breaches and infiltration of water.

(53) Row 5 Screening Plant (ID#96.11): KUCC reports that the site area is the location of a current operating facility. The site's historic facility was demolished to the ground surface. The site is now the location of the Slag Cooling Pot facility, which is permitted by DWQ. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to maintain compliance with DWQ's permit restrictions. Upon mine closure and cessation of operations, the site infrastructure is to be demolished (unless otherwise needed). KUCC is requested to characterize and remediate (if necessary) the site and report on these activities to DERR. Upon receipt and review of these reports, DERR will reevaluate the site status.

(54) Slag Mill Concentrate, Filter Building and Thickener (ID#96.12, a.k.a. S08-S812 and 813): KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B – Summation Report dated May 2002, states that analysis of the post-removal samples demonstrate that all contaminated soils with concentrations of the COCs above the ILU standards, have been removed. At this time, DERR is designating this site a final NFA status.

(55) Station 17 Pumphouse (ID#96.13): According to Mr. Tom Nanini (KUCC, Sept. 2002 update), this site is also known as Section 17 Pump Station (S818). This site is used for current operations and is permitted by DWQ. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to maintain compliance with DWQ's permit restrictions. Upon mine closure and cessation of operations, the site infrastructure is to be demolished (unless otherwise needed). KUCC is requested to characterize and remediate (if necessary) the site and report on these activities to DERR. Upon receipt and review of these reports, DERR will reevaluate the site status.

(56) Section 12 Reverse Osmosis (ID#96.14): KUCC reports that the site was cleaned up as part of the Powerhouse Footprint removal (ID#S08-S300). KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B - Summation Report dated May 2002, states that analysis of the post-removal samples for the Powerhouse Footprint removal project demonstrated that the soils with elevated concentrations of the COCs were removed except in one location. The area with elevated COCs was capped because the arsenic concentration exceeded the ILU standards. At this time, DERR is designating the site a conditional NFA status. KUCC is requested to provide a map that delineates the location of the site and the capped area. KUCC is requested to maintain and protect the cap against breaches and infiltration of water. If KUCC can demonstrate that this site is not part of the capped area, DERR will reevaluate the site status.

(57) Pump Stations (ID#96.15): According to Dr. Hoffman (May 2002), in order to move process water around the north end facilities, KUCC has a number of pump stations. According to Mr. Tom Nanini (KUCC, Sept. 2002 update), these stations are operational and are permitted by DWQ. At this time, DERR is designating the site a conditional NFA status. KUCC is requested to maintain compliance with DWQ's permit restrictions. Upon mine closure and cessation of operations, the site infrastructure is to be demolished (unless otherwise needed). KUCC is requested to characterize and remediate (if necessary) the site and report on these activities to DERR. Upon receipt and review of these reports, DERR will reevaluate the site status.

(58) East and West Process Water Ponds (ID#96.17): This site is currently operational and used to store process water for the north end activities. The site is permitted by DWQ. At this time, DERR is designating the site a conditional NFA status. KUCC is requested to maintain compliance with DWQ's permit restrictions. Upon mine closure and cessation of operations, the site infrastructure is to be demolished (unless otherwise needed). KUCC is requested to characterize and remediate (if necessary) the site and report on these activities to DERR. Upon receipt and review of these reports, DERR will reevaluate the site status.

(59) Smelter Hydromet Plant (ID#96.18): This site is currently operational and is permitted by DWQ. At this time, DERR is designating the site a conditional NFA status. KUCC is requested to maintain compliance with DWQ's permit restrictions. Upon mine closure and cessation of operations, the site infrastructure is to be demolished (unless otherwise needed). KUCC is requested to characterize and remediate (if necessary) the site and report on these activities to DERR. Upon receipt and review of these reports, DERR will reevaluate the site status.

(60) East Stormwater Pond (ID#96.19): This site is currently operational and is permitted by DWQ. At this time, DERR is designating the site a conditional NFA status. KUCC is requested to maintain compliance with DWQ's permit restrictions. Upon mine closure and cessation of operations, the site infrastructure is to be demolished (unless otherwise needed). KUCC is requested to characterize and remediate (if necessary) the site and report on these activities to DERR. Upon receipt and review of these reports, DERR will reevaluate the site status.

(61) West Stormwater Pond (ID#96.20): This site is currently operational and is permitted by DWQ. At this time, DERR is designating the site a conditional NFA status. KUCC is requested to maintain compliance with DWQ's permit restrictions. Upon mine closure and cessation of operations, the site infrastructure is to be demolished (unless otherwise needed). KUCC is requested to characterize and remediate (if necessary) the site and report on these activities to DERR. Upon receipt and review of these reports, DERR will reevaluate the site status.

(62) Reverberatory Smelter Mixing Chambers (ID#96.21a): According to Mr. Tom Nanini (KUCC, Sept. 2002), this site is still existing but is not operational. Some demolition of the site infrastructure has taken place, but overall demolition has not been completed. At this time, this site will remain open under the EOA project. KUCC is requested to complete the demolition work and characterize the site. If remediation of impacted media is necessary, KUCC is directed to complete the work pursuant to the NFSWP and report to DERR on the characterization and remedial activities. Upon receipt and review of these reports, DERR will reevaluate the site.

(63) Reverberatory Smelter Catacombs (ID#96.21b): According to Mr. Tom Nanini (KUCC, Sept. 2002), this site is still existing but is not operational. Some demolition of the site infrastructure has taken place, but overall demolition has not been completed. At this time, this site will remain open under the EOA project. KUCC is requested to complete the demolition work and characterize the site. If remediation of impacted media is necessary, KUCC is directed to complete the work pursuant to the NFSWP and report to DERR on the characterization and remedial activities. Upon receipt and review of these reports, DERR will reevaluate the site.

(64) Thaw Shed (ID#96.22): According to Mr. Tom Nanini (KUCC, Sept. 2002), this site was part of the Kessler Canyon cleanup (S09). According to KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B – Summation Report dated May 2002, a total of 164,098 cubic yards of contaminated soil was removed from the site. A portion of the soil on-site with elevated concentrations of arsenic (2830 ppm) and lead (9190 ppm) was left in place due to the proximity of active utilities and operations. Reclamation of the site included covering the contaminated soils left in place with a minimum of 18 inches, amending the fill with biosolids and seeding it. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to provide a map delineating the location of the site and the capped area. KUCC is requested to maintain and protect the cap against breaches and infiltration of water. If KUCC can demonstrate that the site is not part of the capped area, DERR will reevaluate the site status.

(65) Smelter Process Water Pipeline (ID#96.23): This site is currently operational and is permitted by DWQ. At this time, DERR is designating the site a conditional NFA status. KUCC is requested to maintain compliance with DWQ's permit restrictions. Upon mine closure and cessation of operations, the site infrastructure is to be demolished (unless otherwise needed). KUCC is requested to characterize and remediate (if necessary) the site and report on these activities to DERR. Upon receipt and review of these reports, DERR will reevaluate the site status.

(66) Slag Pot Cooling Area (ID#96.24): This site is currently operational and is permitted by DWQ. At this time, DERR is designating the site a conditional NFA status. KUCC is requested to maintain compliance with DWQ's permit restrictions. Upon mine closure and cessation of operations, the site infrastructure is to be demolished (unless otherwise needed). KUCC is requested to characterize and remediate (if necessary) the site and report on these activities to DERR. Upon receipt and review of these reports, DERR will reevaluate the site status.

(67) Materials Handling Facility (Dryer and Hopper Buildings) (ID#96.25): According to Mr. Tom Nanini (KUCC, Sept. 2002), this site was part of the removal that took place at the Material Handling Footprint site (ID#S08-S400). According to KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B – Summation Report dated May 2002, analysis of the post-remediation and post-reclamation samples demonstrate that current on-site soils meet the ILU standards. The new Dust Processing Building was built on top of the reclaimed surface in the location of the historic Material Handling Dryer Building. At this time, DERR is designating the historic Materials Handling Facility a final NFA status. The current Dust Processing Building is not part of this site designation.

(68) Cooling Towers (ID#96.29): According to Dr. Hoffman (May 2002), a variety of cooling towers associated with the smelter were demolished between 1997 and 1998. These facilities include: (S109) Lower Ecodyne Cooling Tower, (S307) Power Plant Cooling Tower, (S609) Trombone Cooler and Chemical Feed Building, (S610) Lilly Hoffman Cooling Tower and Chemical Feed Building, and (S611) Upper Ecodyne Cooling Tower. According to Mr. Tom Nanini (KUCC, Sept. 2002), sites S109, S609, S610 and S611 were included in the Acid Plant #8 removal and site S307 was included in the Power House removal project. During the Acid Plant #8 removal project, a portion of the site was capped because of elevated concentrations of arsenic and lead. During the removal project for the Smelter Power House, a portion of the site was capped because of elevated concentrations of arsenic. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to submit a map delineating the location of the cooling towers and the capped areas. KUCC is requested to maintain and protect the cap against breaches and infiltration of water. If KUCC can demonstrate that these cooling tower locations are not within the capped areas, DERR will reevaluate the site status.

(69) Overhead Flues (ID#96.27): According to Mr. Tom Nanini (KUCC, Sept. 2002), this site was part of the removal project that took place at the Gas Handling & Acid Plant #8 Footprint site (ID#S08-S500). KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B – Summation Report dated May 2002, states that a portion of the site was capped because soils were detected with an elevated concentration of lead (10,700 ppm) and arsenic (2240 ppm). At this time, DERR is designating this site a conditional NFA status. KUCC is requested to submit a map delineating the location of the site and the capped areas. KUCC is requested to maintain and protect the cap against breaches and the infiltration of water. If KUCC can demonstrate that the Overhead Flues are not within the capped areas, DERR will reevaluate the site status.

(70) Shot Coolers (ID#96.28): According to Mr. Tom Nanini (KUCC, Sept. 2002), this site was part of the removal project that took place at the Hot Metals Footprint site (ID#S08-S200). KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B – Summation Report dated May 2002, states that a portion of the site was capped because soils were detected with an elevated concentration of arsenic (2100 ppm). At this time, DERR is designating this site a conditional NFA status. KUCC is requested to submit a map delineating the location of the site and the capped areas. KUCC is requested to maintain and protect the cap against breaches and infiltration of water. If KUCC can demonstrate that the Shot Coolers are not within the capped areas, DERR will reevaluate the site status.

(71) Cherry Bowl (ID#96.29): The site is currently used as a storage area for smelter material. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to maintain compliance with DWQ's permit restrictions for the smelter operations. Upon mine closure and cessation of operations, the site infrastructure is to be demolished (unless otherwise

needed). KUCC is requested to characterize and remediate (if necessary) the site and report on these activities to DERR. Upon receipt and review of these reports, DERR will reevaluate the site status.

(72) Railroad Crossing (a.k.a. Smelter Railroad Crossing Spill) (ID#96.30): According to Mr. Tom Nanini (KUCC, Sept. 2002), spilled soils from the collision between a transfer dump truck and a haul train, were removed and the footprint of the spill area was characterized. KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B – Summation Report dated May 2002, states that the analysis of the post-removal samples determined that the concentration of the COCs met the ILU standards. At this time, DERR is designating this site a final NFA status.

(73) Misc. Smelter Buildings (ID#96.31): According to Mr. Tom Nanini (KUCC, Sept. 2002 update), there are a number of individual facilities within this generic site name. Please refer to DERR's table of historic and current facilities (under this site name) for a listing of the facilities. At this time, DERR is designating this site a conditional NFA status. KUCC is requested (for the facilities that remain operational) to maintain compliance with DWQ's permit restrictions for smelter operations. Upon mine closure and cessation of operations, the site infrastructure is to be demolished (unless otherwise needed). KUCC is requested to characterize and remediate (if necessary) the site and report on these activities to DERR. Upon receipt and review of these reports, DERR will reevaluate the site status.

(74) Converter Annex Building (ID#96.31a): The site facility was the maintenance building for the Converter Aisle, which was a facility associated with the decommissioned Reverberatory Smelter. This site footprint is currently located under the existing smelter. The area is capped with either concrete or asphalt. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to maintain compliance with DWQ's permit restrictions for the smelter operations. Upon mine closure and cessation of operations, the site infrastructure is to be demolished (unless otherwise needed). KUCC is requested to characterize and remediate (if necessary) the site and report on these activities to DERR. Upon receipt and review of these reports, DERR will reevaluate the site status.

(75) Egg Crate Building (ID#96.31b): The site was the storage building for the decommissioned Reverberatory Smelter. Currently, the site footprint is located under the new smelter facility. The area is capped with either concrete or asphalt. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to maintain compliance with DWQ's permit restrictions for the smelter operations. Upon mine closure and cessation of operations, the site infrastructure is to be demolished (unless otherwise needed). KUCC is requested to characterize and remediate (if necessary) the site and report on these activities to DERR. Upon receipt and review of these reports, DERR will reevaluate the site status.

(76) Uphill Stacks (ID#96.31c): The site was remediated along with other areas associated with the Upper Kessler Canyon site (ID#S09). KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B – Summation Report dated May 2002, states that 164,098 cubic yards of material were removed from the canyon. A portion of contaminated soil with elevated concentrations of arsenic (2830 ppm) and lead (9190 ppm) was left in place and capped. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to submit a map delineating the location of this site and the capped area. KUCC is also directed to maintain and protect the cap against breaches and infiltration of water. If KUCC can demonstrate that this site is not within the capped area, DERR will reevaluate the site status.

(77) Reverberator Bypass Flue (ID#96.31d): According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002) the lower portion of the flue between the historic Hot Metals Building and the Mixing Chamber (west section) was lifted in elevation to a series of 6 tunnels (catacombs). This portion of the site is located in the new smelter area, is paved, and is part of the ground water monitoring area associated with the smelter. The portion of the site from the Mixing Chamber to the Uphill Stacks was remediated as part of the railroad tunnels site. At this time, DERR is designating this site a conditional NFA. KUCC is requested to maintain compliance with DWQ's permit restrictions for the smelter operations. Upon mine closure and cessation of operations, the site infrastructure (catacombs) is to be demolished (unless otherwise needed). KUCC is requested to characterize and remediate (if necessary) the site and report on these activities to DERR. Upon receipt and review of these reports, DERR will reevaluate the site status. For the portion of the site that was remediated during the cleanup of the railroad tunnels site, DERR requests that KUCC submit the post removal sample analyses for our records.

(78) Acid Plant Demolition Projects (ID#97.03): Historic acid plants (#1, 2, 3, 4, 5, 6, 7, and 8) were decommissioned to make way for each succeeding acid plant. Currently, the new acid plant is located near the old Acid Plant #8. The two most recent acid plants, #7 and #8, had various facilities located within their footprints, a listing of which is available in DERR's historic and current sites table or Dr. Hoffman's Historic Sites Background (May 2002). According to KUCC's report entitled North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B - Summation Report dated May 2002, Acid Plants #7 and #8 were cleaned up upon demolition of the facilities. Some contaminated material with elevated concentrations of the COCs (arsenic and lead) was capped on-site at each facility. A portion of the capped area at Acid Plant #8 is used as a concentrate storage pad by the smelter operations. The pad is equipped with run-on/run-off controls and other migration controls. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to maintain compliance with DWQ's permit restrictions over the concentrate storage pad operations and current acid plant operations. KUCC is requested to submit a map of these sites that delineates the location of the acid plant footprints and the location of the capped area. KUCC is also requested to maintain and protect the cap against breaches and infiltration of water.

(79) West Weak Acid Lift Station (ID#97.04): This site is the same site as the Weak Acid Lift Station (ID#97.02). Site #97.02 was designated a conditional NFA status in DERR's letter dated January 13, 2003. KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B - Summation Report dated May 2002, states that at least one post-removal sample exceeded the arsenic ILU standard. The report states that the majority of the contaminated soil was removed but a portion was left in place and capped. At this time, the site is designated a conditional NFA status. Please submit a map of the capped area, which delineates its location. KUCC is requested to maintain and protect the engineered cap from breaches and infiltration of water.

(80) Concentrate Storage Pad (ID#97.05): This site is existing and used during current smelter operations to store concentrate. The footprint of this site overlies the historic location of the Gas Handling Facility and Acid Plant #8 (ID# S08-S500 and S600). At this time, DERR is designating this site a conditional NFA status. KUCC is requested to maintain compliance with DWQ's permit restrictions for this site. KUCC is requested to provide a map of the site that delineates the location of the site and the capped area. KUCC is also requested to maintain and protect the cap against breaches and infiltration of water, and to maintain the migration controls associated with the pad. Upon mine closure the site is to undergo demolition of non-necessary infrastructure and the area is to be characterized. If necessary the site is to be remediated. All

activities will need to be reported to DERR. Upon review of the remedial reports, DERR will reevaluate the site status.

(81) Old Precious Metals Building (a.k.a. Precious Metals Site) (ID#99.01, a.k.a. R01): KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B - Summation Report dated May 2002, states that analysis of the post-removal samples detected elevated concentrations of arsenic (6000 ppm), lead (3500 ppm), and selenium (15200 ppm). The soils that exceeded the ILU standards were capped on-site. Analysis of the post-reclamation samples determined that surface soils met the ILU standards. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to submit a map of the capped area that delineates the site's location. KUCC is also requested to maintain and protect the cap against breeches and infiltration of water.

(82) East Rail Yard (ID#99.02, a.k.a. S02): KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B - Summation Report dated May 2002, states that a soil removal was performed and after post-remediation samples were collected, an area of soils with an arsenic concentration that exceeds the ILU standard was capped. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to submit a map of the capped area that delineates the site's location. KUCC is also requested to maintain and protect the cap against breeches and infiltration of water.

(83) Electrolyte Purification Building (ID#99.03, a.k.a. R08): KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B - Summation Report dated May 2002, states that analysis of the post-removal samples determined that the exposed surface soils met the ILU standards, except in one location. The area that had soils exceeding the ILU standards was capped. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to submit a map of the capped area that delineates the site's location. KUCC is also requested to maintain and protect the cap against breeches and infiltration of water.

(84) Lead Shop (a.k.a. Lead Shop Site) (ID#99.04, a.k.a. R09): KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B - Summation Report dated May 2002, states that the analysis of the characterization samples detected no concentrations of the COCs above the ILU standards. No removal was performed. At this time, DERR is designating this site a final NFA status.

(85) Electrolyte Pipeline Corridor (ID#99.05, a.k.a. R12): KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B - Summation Report dated May 2002, states that the analysis of the characterization samples detected no concentrations of the COCs above the ILU standards. No removal was performed. At this time, DERR is designating this site a final NFA status.

(86) West Laydown Yard (ID#99.06, a.k.a. R17): KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B - Summation Report dated May 2002, states that after the soil removal activities analysis of the post-removal samples did not detect any COCs above the ILU standards. The site was backfilled and reclaimed. At this time, DERR is designating this site a final NFA status.

(87) Kessler Spring Dump (ID#99.07): This site is the same site as the Kessler Springs site (ID#WL01). KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B - Summation Report dated May 2002, states that all contaminated material from the site was removed; analysis of the post-removal samples did not detect any

elevated concentrations of the COCs. Prior to current operations on-site the site was backfilled and reclaimed. The site is currently being used to assist in the remedy of the selenium ground water plume. A number of canals, drains, dams and experimental facilities are located on-site. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to maintain site integrity during the remediation of the selenium plume.

(88) Oil Storage Site (ID#99.08, a.k.a. R10): KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B – Summation Report dated May 2002, states that analysis of the characterization samples did not detect concentrations of the COCs above the ILU standards. No removal action was performed. At this time, DERR is designating this site a final NFA status.

(89) Boiler Building Footprint (ID#99.09, a.k.a. R15): KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B – Summation Report dated May 2002, states that analysis of the characterization samples did not detect concentrations of the COCs above the ILU standards. No removal action was performed. At this time, DERR is designating this site a final NFA status.

(90) Assay Lab Footprint (ID#99.10, a.k.a. R16): KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B – Summation Report dated May 2002, states that analysis of the characterization samples did not detect concentrations of the COCs above the ILU standards. No removal action was performed. At this time, DERR is designating this site a final NFA status.

(91) Bridge Crane Removal (ID#99.10): According to Mr. Tom Nanini (KUCC, Sept. 2002), the site underwent demolition in 1995 during the 1995 Refinery modernization. A bridge crane that operated at the Tank House was removed and sold. No characterization or removal action of the soil was deemed necessary since the site was located on a concrete pad. Operations at the site did not produce or handle waste products. At this time, DERR is designating this site a final NFA status.

(92) R1-R2 Containment Area (ID#99.12, a.k.a. R14): KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B – Summation Report dated May 2002, states that analysis of the characterization samples did not detect concentrations of the COCs above the ILU standards. No removal action was performed. At this time, DERR is designating this site a final NFA status.

(93) Bosh Pond (ID#99.13): According to Dr. Hoffman (May 2002), the site was the location of a water storage area for cooling water used for the anode remelting furnaces at the old refinery. It was located southeast of the Tank House. According to Mr. Tom Nanini (KUCC, Sept. 2002), the pond has been removed and the area is asphalted. At this time, this site will remain open under the EOA project. KUCC is requested to maintain the asphalt cap and prevent any intrusions through it. Upon mine closure and cessation of operations, KUCC is requested to characterize and remediate (if necessary) the site and report on these activities to DERR. Upon receipt and review of these reports, DERR will reevaluate the site status.

(94) Santa Fe Basin (ID#99.14): According to Mr. Tom Nanini (KUCC, Sept. 2002 update package), the site was characterized in 1997. KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B – Summation Report dated May 2002, states that analysis of the characterization samples detected a maximum concentration of arsenic of 23.1 ppm, cadmium of 5.1 ppm, lead of 25.0 ppm, and selenium of <0.5 ppm. Since none of

the samples demonstrated a maximum concentration above the ILU standards, no further action was pursued. At this time, DERR is designating this site a final NFA status.

(95) Refinery Storm Water Canal (a.k.a. Refinery Stormwater Ditch) (ID#99.15, a.k.a. R18): KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B - Summation Report dated May 2002, states that all contaminated soil was removed from the site and the site has been reclaimed with topsoil. Analysis of the post-remediation samples detected a maximum concentration of arsenic of 108 ppm, cadmium of 1.8 ppm, lead of 114 ppm, and selenium of 61.1 ppm. Reclamation activities were performed by KUCC, but not because of contamination issues. Accordingly, DERR is designating the site a final NFA status.

(96) New Power Plant (a.k.a. Utah Power Plant) (ID#100.00): This facility is currently used by KUCC to provide power to other north end facilities. According to Mr. Tom Nanini (KUCC, Sept. 2002), the waste control operations are regulated by various DEQ permits. At this time, DERR is designating this site a conditional NFA. KUCC is requested to maintain compliance with the restrictions listed in the DEQ issued permits. Upon mine closure and cessation of operations, the site infrastructure is to be demolished (unless otherwise needed). KUCC is requested to characterize and remediate (if necessary) the site and report on these activities to DERR. Upon receipt and review of these reports, DERR will reevaluate the site status.

(97) Power Station (ID#100.01): This facility is currently used by KUCC to deliver power to other north end facilities. According to Mr. Tom Nanini (KUCC, Sept. 2002), the operations are regulated by various DEQ permits. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to maintain compliance with the restrictions listed in the DEQ issued permits. Upon mine closure and cessation of operations, the site infrastructure is to be demolished (unless otherwise needed). KUCC is requested to characterize and remediate (if necessary) the site and report on these activities to DERR. Upon receipt and review of these reports, DERR will reevaluate the site status.

(98) North Tailings Pond Expansion (ID#101.01): According to Dr. Hoffman (May 2002), Kennecott proposed the extension of the tailings pond toward the north and west of the historic facility in 1996. KUCC pursued and was issued a series of permits from various federal, state and local permitting agencies. The North Tailings Pond is one of three facilities making up the Magna Tailings Impoundment facility. Currently, the USACE, DOGM and DEQ have permits that regulate various components of this operating facility. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to maintain compliance with the 404 permit restrictions from the USACE, which includes monitoring requirements for the wetland areas acquired to offset the use of wetland areas during the expansion. KUCC is requested to maintain compliance with DWQ's (UPDES and GW) permits, which regulate the discharges from the ponds, and DAQ's permit that regulates the discharge of dust to the surrounding area. Lastly, KUCC is requested to work with DOGM to determine the appropriate closure restrictions for the site and to perform closure requirements upon the cessation of operations.

(99) Arthur Step Back Repository (ID#101.02): According to Dr. Hoffman (May 2002), as part of the Kennecott North Facilities Soil and Wastewater Treatment Plant Ponds Site Removal Action, KUCC constructed on existing company property a waste repository similar in structure to a Subtitle C type repository. This repository was called the Arthur Step Back Repository because it is located on the southwest corner of the Kennecott Tailings Impoundment (Magna Tailings Impoundment) in a depression known as the Arthur Step-Back. The repository covers an area of about 30 acres and is approximately 3060 feet long and 420 feet wide at the top. It has been designated to hold up to 2.5 million cubic yards of material and has been receiving

contaminated material (soils, sludges, and other solid waste) from the various cleanups performed by KUCC on the north end. The repository has been selected as the receiving facility for the waste material developed during the demolition and remediation of the Precipitation Plant site (ID#81.00). The repository is located within the permitted area of the tailings impoundment and is regulated by virtue of its location, under the permits from DAQ (air quality – dust control), DWQ (ground water), and DOGM (reclamation). At this time, DERR is designating this site a conditional NFA status. KUCC is requested to maintain compliance with DEQ and DOGM permits over the tailings impoundment site. KUCC is further requested to work with DOGM and DERR to develop the appropriate closure measures for when use of the repository is completed. DERR understands that the repository is currently partially capped and will be reopened to receive the contaminated waste material derived from the remediation activities at the Precipitation Plant site. KUCC is requested to maintain and protect the temporary cap to prevent the migration of underlying contaminated soils and infiltration of water.

(100) Ragtown and Snaketown (ID#101.03): According to Dr. Hoffman (May 2002), a small community of tents, dugouts and shanties known as Ragtown developed near the construction sites of the Magna Mill in 1905 and 1906. Snaketown was a district within the community boundaries. Both were located around 2100 South and Ragtown extended to 2700 South. Snaketown was the first area to be impacted by mining activity, because the area began to be covered by tailings material. Ragtown was abandoned in 1917 as a result of the construction of the tailings pond. The Magna Tailings Impoundment has subsumed both areas. At this time, DERR is designating this site a final NFA status.

(101) Historic Roads (ID#101.04): According to Dr. Hoffman (May 2002), two historic roads transected the area of the Magna Tailings Pond: (1) the Lincoln Highway, and (2) the old Salt Lake to Tooele highway. A section of the Lincoln Highway still exists west of the tailings impoundment near SH 201 and Sludge Pond C. This portion of the highway is used by KUCC to haul sludges to the Arthur Step Back Repository. The old Salt Lake to Tooele Highway currently originates at the pump house for the tailings impoundment and traverses eastward crossing Kersey Creek canal. The current tailings impoundment has subsumed the main portions of these roads located on KUCC property. At this time, DERR is designating this site a conditional NFA status. Upon mine closure and cessation of operations, KUCC is requested to characterize and remediate (if necessary) the portions of the site still in use to haul waste material, and report on these activities to DERR. Upon receipt and review of these reports, DERR will reevaluate the site status.

(102) Riter (ID#101.05): According to Dr. Hoffman (May 2002), when the Oregon Short Line narrow gauge railroad tracks were standardized and incorporated into the San Pedro, Los Angeles and Salt Lake Railroad, the flag stop in Riter was upgraded into a regular passenger station. Because of the increased passenger traffic, a small town grew up around the station. During the expansion of the tailings impoundment in 1997, the footprint of the town and station were buried underneath the impoundment. The rail tracks were relocated to the north of the expanded tailings impoundment. At this time, DERR is designating this site a final NFA status since the original bed of the rail line has been subsumed by the impoundment.

(103) Historic Rail Routes (ID#101.06): According to Dr. Hoffman (May 2002), three different railroads had tracks through the Magna Tailings Pond area. The first grade through the area was originally the Salt Lake, Sevier Valley and Pioche Railroad in 1873. After multiple sales, the line became the Los Angeles and Salt Lake Railroad as a Union Pacific subsidiary. The original track bed ran west/southwest through the center of the pre-1997 tailings pond. The bed of the tracks served as a roadbed for the road adjacent to the Smelter Return Canal. The tracks were realigned

between 1996-1998 when the tailings pond was expanded. A portion of the original bed still exists today and runs through the Garfield wetlands and serves as a dam. The new tracks are operated by Union Pacific and were built up using slag material from earlier operations.

The second grade was the Saltair Line built by the Salt Lake and Los Angeles Railway in 1892. The name was changed shortly after (1916) to the Salt Lake, Garfield and Western Railroad. The line, after expansion, specialized in passenger traffic and salt cargo. Today, the tracks extend westward only to 7200 West. Its main business is coal delivery to the Gadsby UP&L Power Plant. The original grade was not relocated during the tailings pond expansion projects of 1918 or 1997.

The Western Pacific Railroad, roughly paralleling the San Pedro, Los Angeles and Salt Lake Railroad, constructed the third grade in 1903. In 1918 the grade was relocated alongside the Los Angeles and Salt Lake Railroad when the first expansion project took place. The track eventually came under the control of Union Pacific and was moved north during the 1997 expansion project.

Slag was the predominant rail bed building material during the relocation projects. A letter from KUCC dated January 7, 2000 addresses the leachability of the slag material used to construct the rail beds; the slag was determined to not be leachable. At this time, DERR is designating this site a final NFA status based upon the non-leachability of the slag material, KUCC's role with the railway operating companies, and that the original grades have been subsumed by the tailings pond expansion project.

(104) Tooele Canal Ditch (ID#102.01): According to Mr. Tom Nanini (KUCC, Sept. 2002), this is an aqueduct line that provides process water to the smelter circuit via a pipeline from Tooele, Utah. According to Dr. Hoffman (May 2002), approximately 4000 gpm of water is delivered, with an average selenium concentration of 0.011 mg/l (ppm). This site is a clean water source for KUCC's process water circuit for current operations. The canal is not permitted, but the water is blended into the process circuit on KUCC's property line, which is permitted by DWQ. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to maintain compliance with DWQ's permits over the process water circuit. KUCC is also requested to periodically check the selenium concentration (monitoring requirement under the UPDES discharge permit requirements for KUCC outfalls) of the water, and to verify that inappropriate levels are not discharged out of the circuit to a wetland or other surface water body.

(105) Smelter Return Canal (ID#102.02, a.k.a. S11): According to Mr. Tom Nanini (KUCC, Sept. 2002), this site is the same site as the Return Canal (ID#S11). As stated under the Return Canal site, soils associated with Pump Station #4 are separated from the remainder of the soils associated with the Return Canal by a dike. According to Dr. Hoffman (May 2002), the canal used to be mucked out once sediments reached a certain height. The material produced would be placed upon the embankments, which may have led to contaminated soils approximately 200 feet back from the embankment. Recently, some site soils have been delivered to the Arthur Step Back Repository. At this time, DERR is designating this site a conditional NFA. KUCC is requested to complete the cleanup around Pump Station #4 and report on this activity, providing post-remedial and post-reclamation (if needed) sample analyses. Upon receipt and review of the report, DERR will reevaluate the site.

(106) East Hazelton (ID#102.03): According to Dr. Hoffman (May 2002), located just to the south of the slag lagoon and just to the west of the slag pile are some wetlands called Hazelton because the Hazelton pump station is located here. East Hazelton consist of a three and one-half acre area that is devoid of vegetation. This area was formerly used as a dumpsite. Contaminated

soils extended in some locations approximately eight feet below the ground surface. The site was cleaned up as part of the Slag Pile Soils and Lagoon Site (ID#S16).

KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B – Summation Report dated May 2002, states that all contaminated sediments from the Slag Pile Soils and Lagoon site were removed during October and November of 2001. Native vegetation was planted along the shorelines that did not have phragmites colonies and/or slag. The analysis of the post-removal samples detected a maximum concentration of arsenic of 122 ppm, lead of 142 ppm, cadmium of 6.7 ppm, and selenium of 8.9 ppm. Further reclamation activities were performed to stabilize the area and to produce a vital wetland habitat. At this time, DERR is designating this site a final NFA status.

(107) West Hazelton (ID#102.04): According to Dr. Hoffman (May 2002), this site is located in the same location of East Hazelton. The site consists of two bermed settlement ponds covering about six and one-half acres. The area was vegetated with a thick mat of grasses but had elevated concentrations of arsenic. The site was cleaned up as part of the Slag Pile Soils and Lagoon Site (ID#S11).

KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B – Summation Report dated May 2002, states that all contaminated sediments from the Slag Pile Soils and Lagoon site were removed during October and November of 2001. Native vegetation was planted along the shorelines that did not have phragmites colonies and/or slag. The analysis of the post-removal samples detected a maximum concentration of arsenic of 122 ppm, lead of 142 ppm, cadmium of 6.7 ppm, and selenium of 8.9 ppm. Further reclamation activities were performed to stabilize the area and to produce a vital wetland habitat. At this time, DERR is designating this site a final NFA status.

(108) I-80 Pond Site (ID#102.05, a.k.a. WL03): KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B – Summation Report dated May 2002, states that analysis of the post-removal samples determined that the majority of the soil with elevated concentrations of the COCs was removed from the site except in one location. Due to a nearby transcontinental communication line, sediments with elevated arsenic concentrations along the north boundary of the site were capped to avoid disturbing the communication line. This line is a lead-cased line installed during the 1950's and is in a fragile condition. The area is approximately 4,500 feet by 20 feet and was capped with a minimum of 18 inches of local clean borrow material. In November of 2001, local wetland plants were planted along all shorelines without established phragmites colonies. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to submit a map that delineates this site and the location of the capped area. KUCC is further requested to maintain and protect the cap against breeches and infiltration of water.

(109) Wetlands Landfill Site (ID#102.06, a.k.a. WL04): KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B – Summation Report dated May 2002, states that analysis of the post-removal samples determined that all of the contaminated material with elevated concentrations of the COCs was removed. No further remedial activities were performed. At this time, DERR is designating this site a final NFA status.

(110) Wooden Bridge Site (ID#102.07, a.k.a. WL02): KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B – Summation Report dated May 2002, states that analysis of the post-removal samples determined that all of the

contaminated material with elevated concentrations of the COCs was removed. No further remedial activities were performed. At this time, DERR is designating this site a final NFA status.

(111) Rail Graveyard (ID#103.00): In DERR's letter dated October 5, 1998 a conditional NFA status was provided to this site. The site was regulated through a DWQ permit (North Concentrator Ground Water Discharge Permit) and through a DOGM Reclamation Permit. Based upon this information, DERR (at this time) is extending the conditional NFA status for this site. KUCC is requested to maintain compliance with the DWQ and DOGM permit restrictions. If characterization and remedial activities have been or will be performed on-site, please report on these activities to DERR. Upon receipt and review of the reports, DERR will reevaluate the site status.

(112) Waste Water Treatment Plant Sludge (a.k.a. Waste Water Treatment Plant Soils Site) (ID#105.00, a.k.a. W02): KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B – Summation Report dated May 2002, states that analysis of the post-removal samples determined that all of the contaminated material with elevated concentrations of the COCs was removed. The site was reclaimed with topsoil and biosolids, and seeded. At this time, DERR is designating this site a final NFA status.

(113) WWTP Soils (ID#105.01): KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B – Summation Report dated May 2002, states that analysis of the post-removal samples determined that all of the contaminated material with elevated concentrations of the COCs was removed. No further remedial activities were performed. KUCC, for other reasons, reclaimed the site and all reclaimed surface soils met the ILU standards. At this time, DERR is designating this site a final NFA status.

(114) Kennecott Tailings Pond Landfill (a.k.a. Magna Tailings Pond Landfill) (ID#106.00): DERR, in a letter dated October 5, 1998, designated a NFA status for the then current landfill. This landfill was a monitored non-hazardous waste landfill, monitored by the Salt Lake City-County Health Department (now Salt Lake Valley Health Department, SLVH) under associated permits. It is DERR's understanding that this NFA status was provided conditional to KUCC's continued compliance with the Health Department permit. At this time, DERR is extending this conditional NFA status. Please explain if this 1998 landfill is still in use and still permitted by the Health Department. If the landfill is still in operation, then KUCC is requested to continue to comply with the SLVH permit restrictions. If there are no operational non-hazardous waste landfills currently used on-site nor proposed for use in the future, DERR will reevaluate the site status to determine if a final NFA is appropriate.

(115) Smelter Landfill (ID#107.00): DERR, in a letter dated October 5, 1998, designated a NFA status for the then current landfill. This landfill, like the Magna Tailings Pond Landfill (ID#106.00), was a monitored non-hazardous waste landfill, monitored by the Salt Lake City-County Health Department under associated permits. The second unit of this landfill was used to dispose of concrete and rebar. It is DERR's understanding that this NFA status was provided conditional to KUCC's continued compliance with the Health Department permit. At this time, DERR is extending this conditional NFA status. Please explain if this 1998 landfill is still in use and still permitted by the Health Department. If the landfill is still in operation, then KUCC is requested to continue to comply with the SLVH permit restrictions. If there are no operational non-hazardous waste landfills currently used on-site nor proposed for use in the future, DERR will reevaluate the site status to determine if a final NFA is appropriate.

(116) Tailings Slurry Pipeline (ID#108.00): DERR, in a letter dated July 2, 1998, designated this site with a NFA status. At the time, the site was permitted under DWQ and DOGM for ongoing monitoring and spill reporting for active operations and closure requirements upon cessation of operations. It is DERR's understanding that this site status was conditional to KUCC continued compliance with the permit restrictions required by the two permitting agencies. At this time, DERR is extending the conditional NFA status. KUCC is requested to continue to remain in compliance with DWQ's and DOGM's permit restrictions. Long term monitoring of spills and reporting to DERR of the cleanup efforts are also required. Upon mine closure and cessation of operations, the site infrastructure is to be demolished (unless otherwise needed). KUCC is requested to characterize and remediate (if necessary) the site and report on these activities to DERR. Upon receipt and review of these reports, DERR will reevaluate the site status.

(117) Magna Mill Flume (ID#108.00a): According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), this site has long since been subsumed by current operations on the north end. The site originally crossed 2100 South to transport tailings material from the Magna Mill to the South Tailings Impoundment. Currently, there is an open launderer that is still in operation (might be referencing the Magna Leaching Facility - ID#69.00) on-site, which was once part of the Magna Mill. The launderer is regulated under a DWQ permit for the Magna Mill. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to maintain compliance with DWQ's permit restrictions. Upon mine closure and cessation of operations, the site infrastructure is to be demolished (unless otherwise needed). KUCC is requested to characterize and remediate (if necessary) the site and report on these activities to DERR. Upon receipt and review of these reports, DERR will reevaluate the site status.

(118) Concentrate Slurry Pipeline (ID#109.00): According to Dr. Hoffman (May 2002), beginning in 1987 a six-inch pipeline was used to deliver concentrate from the Copperton Concentrator to a dewatering tank associated with the smelter on the northend. In 1993 the pipeline was replaced after a series of spills took place. It is reported that each of the spills were cleaned up using visual confirmation since the concentrate is visually distinguishable from the surrounding soils. Currently, a four-inch slurry pipeline is used to deliver the concentrate to the current filter plant at a rate of 600 wet tons per day.

Previously, DERR designated this site a conditional NFA status in a letter dated July 2, 1998. At this time, DERR is extending the conditional NFA status. KUCC is requested to continue with the long term monitoring previously required by DERR because of occasional spills. KUCC is also requested to continue to comply with the DEQ permit restrictions. Upon mine closure and cessation of operations, the site infrastructure is to be demolished (unless otherwise needed). KUCC is requested to characterize and remediate (if necessary) the site and report on these activities to DERR. Upon receipt and review of these reports, DERR will reevaluate the site status.

(119) Railroad Right of Way (UP) (ID#121.02): This site was originally excluded from the Bingham Creek Record of Decision. The right-of-way corridor is used by KUCC to access Union Pacific's rail line north of the refinery and acid tank farm, to export both acid and copper anode products. Periodically there have been spills of concentrate material (exported off-site) and acid product during shipment activities. These have been reported to the appropriate agencies. At this time, this site will remain open under the EOA project. KUCC is requested to continue with its reporting responsibilities when spills take place. A copy of spill reports should be provided to DERR for tracking purposes. Upon mine closure and cessation of operations, the site infrastructure is to be demolished (unless otherwise needed). KUCC is requested to characterize and remediate (if necessary) the site and report on these activities to DERR. Upon receipt and

review of these reports, DERR will reevaluate the site status. If demolition is not proposed, KUCC is requested to contact DERR to develop a strategy to prevent exposure to elevated concentrations of the COCs dependent upon the proposed land use.

(120) Jordan River (ID#122.00): In a letter dated August 20, 1998, DERR designated a final NFA status to this site because it did not fall within the scope of the on-site environmental assessments. At this time, the site status will remain the same. As stated before, DEQ and EPA retain their right to pursue remedial actions over the Jordan River or its floodplain under separate action.

(121) Mine Wash Areas (ID#122.01): Previous site statuses were designated by DERR in separate letters; please review these letters for any conditions to the designated status. The Fassio area was designated a NFA status in the letter dated June 11, 2001. The site entitled "9250 Linear Feet," was designated a NFA status in the letter dated December 21, 2001. The sites in Section 27, T 3 S, R 2 W (SBLM) and the five areas near the Evaporation Ponds were designated a NFA status in the letter dated August 17, 2001. Lastly, the Bastian Sink area was addressed in the Bingham Creek Record of Decision.

(122) Pine Canyon Tunnel (ID#132.00): In a letter dated July 14, 1998, DERR designated this site a conditional NFA status. At this time, DERR is extending this site status. KUCC was, and continues to be, requested to monitor the area for erosion and continue to provide slide controls over the area.

(123) Erda Airshed (ID#133.00): The towns of Erda, Lake Point, and Stansbury Park are located close to the Great Salt Lake and Kennecott's historic Garfield Smelter. Because of the regional wind patterns, these agricultural communities were investigated to determine if either the Kennecott Garfield Smelter or the International Smelter air emissions impacted either of these communities. According to a KUCC letter dated April 7, 1999, EPA had listed this site as excluded from the EOA project because of the potential for other responsible parties (INS) activities in the vicinity. SAIC's report (dated June 1, 1995), demonstrated that the elevated concentrations of lead and arsenic in soils were suspected to be closely associated with the INS and Refinery complex. The elevated concentrations of lead and arsenic in some of the samples were determined by EPA to not exceed typical EPA action levels. At this time, DERR is designating this site a final NFA status.

(124) Water Supply Tunnel Dump (a.k.a. Middle Canyon Dump) (ID#134.00, a.k.a. 67.00): A final NFA site status was previously designated to this site in the DERR letter dated June 11, 2002. Continued site management over time to prevent the erosion of the dump face was original suggested by KUCC, and agreed to by DERR. An inspection of the dump was to take place during the spring of 2002. DERR in the June 11, 2002 letter requested a copy of this report, which to date has not been received. Please deliver a copy of this inspection report and any others since then to DERR for our review.

(125) Apex (Parvenu) Tunnel (ID#135.01): This site is listed as NFA on the EOA project list, but no reason is discernible at this time. DERR requests some assistance from KUCC to determine the type of NFA status that was designated to this site and reasons for the designation. KUCC is asked to review their files and determine if there were any conditions applicable to the site designation.

(126) Two Armstrong Tunnels (ID#135.02): In a letter dated July 14, 1998, DERR designated this site a final NFA status. The tunnels have been partially mined away and no water discharges from them. As the mine expands, the pit will subsume remaining portions of the tunnels. At this time, the site status will remain the same.

(127) Highland Boy Tunnel (ID#135.03): In a letter dated July 14, 1998, DERR designated this site a final NFA status. The tunnel has been partially mined away and no water discharges from it. As the mine expands, the pit will subsume remaining portions of the tunnel. At this time, the site status will remain the same.

(128) Bingham West Dip Tunnel (ID#135.04): A table listing the Priority I sites that is attached to DERR's letter (dated March 3, 1998) has a NFA status designated for the site. DERR requests some assistance from KUCC to determine the type of NFA status that was designated for this site and reasons for the designation. KUCC is asked to review their files and determine if there were any conditions applicable to the site designation.

(129) Adamson Tunnel (ID#135.05): A table listing the Priority I sites that is attached to DERR's letter (dated March 3, 1998) has a NFA status designated for the site. It is noted by KUCC (Sept. 2002), that a meeting on March 13, 1996 between EPA, DEQ, and KUCC reached an agreement that this site was NFA for the EOA project. DERR requests some assistance from KUCC to determine the type of NFA status that was designated to this site and reasons for the designation. KUCC is asked to review their files and determine if there were any conditions applicable to the site designation.

(130) Garfield Townsite (ID#136.01, a.k.a. R13): KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B - Summation Report dated May 2002, states that analysis of the characterization samples collected on-site determined that the current surface soils meet the ILU standards. No removal activities were performed. KUCC (for separate reasons) reclaimed the site and analysis of the post-remediation soil samples determined that the newly reclaimed surface soils met the ILU standards. At this time, DERR is designating this site a final NFA status.

(131) Wooden Flume Site (ID#136.02, a.k.a. S19): KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B - Summation Report dated May 2002, states that analysis of the post-removal soil samples determined that there were soils with concentrations of the COCs exceeding the ILU standards. These soils were capped on-site, and analysis of the post-reclamation soil samples determined that the reclaimed surface soils met the ILU standards. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to provide a map that delineates the location of this site and the capped areas. KUCC is further requested to maintain and protect the cap against breeches and infiltration of water.

(132) Magna Soils (ID#137.00): DERR previously designated this site a NFA status. DERR currently does not have any records as to when and why this designation was made. DERR requests some assistance from KUCC to determine the type of NFA status that was designated to this site and reasons for the designation. KUCC is asked to review their files and determine if there were any conditions applicable to the site designation.

(133) Little Valley (ID#138.00): Little Valley is the location of the Little Valley Sediment Ponds (ID#95.03) site and was investigated as part of the characterization of the portions of the Bonneville Crusher complex (ID#B04). DERR's letter dated January 13, 2003 discusses the sediment pond site. This valley located to the southeast of the historic and current smelters has

been impacted by smelter air emissions. Areas denuded of vegetation due to smelter emissions were prone to flooding. During 1997, an ecological risk assessment was performed by KUCC on the various north end canyons, Little Valley being one of them. Average lead values ranged between 136 ppm – 209 ppm, and average arsenic values ranged between 46.3 ppm – 58.2 ppm (Dr. Hoffman, May 2002). Waste material (fine grain particles of ore material) washed down during storm events into Little Valley Wash (Dr. Hoffman, May 2002). This material was removed, pursuant to a request by DWQ, from the wash to prevent potential impact to ground water. Little Valley does have a UPDES permitted outfall (No. SW3) for surface water, but water only flows during significant rain events (Dr. Hoffman, May 2002).

At this time, DERR is extending the conditional NFA status provided in the letter dated January 16, 1998. KUCC is requested to report on the reclamation activities that have been performed. KUCC is requested to remain in compliance with DWQ's UPDES permit. KUCC is also requested to comply with the conditions designated for the Little Valley Sediment Ponds site, stated in DERR's letter dated January 13, 2003. Upon receipt and review of the requested documents, DERR will reevaluate the site status.

(134) C-7 Ditch (ID#140.00): In a letter dated January 16, 1998, DERR designated this site a conditional NFA status. The status was conditional to KUCC's continued compliance with both DWQ's UPDES permit and USACE's 404 permit restrictions. At this time, DERR is extending the conditional NFA status for this site. DERR has unfortunately misplaced the permit restrictions provided by KUCC (per our request) in their response letter dated March 9, 1998. Please provide another copy of the permit restrictions for our files. Upon mine closure, KUCC is requested to comply with the closure requirements listed in either the DEQ's or USACE's permit. If there are no permit closure requirements listed, KUCC (upon mine closure) is requested to demolish site infrastructure, characterize the site and perform any necessary remedial activities. Upon completion of this work, KUCC is requested to report to DERR on these activities. Upon receipt and review of these reports, DERR will reevaluate the site status.

(135) Lee Creek (ID#140.01): In a letter dated January 16, 1998, DERR designated this site a conditional NFA status. The status was conditional to KUCC's continued compliance with the USACE's 404 permit restrictions on Lee Creek. Lee Creek is the receiving water body for the water discharged by KUCC through the permitted outfall No. 007 (C-7 Ditch). At this time, DERR is extending the conditional NFA status pursuant to KUCC's continued compliance with the permit restrictions of both the USACE's 404 permit and DWQ's UPDES permit on outfall No. 007. Upon mine closure, KUCC is requested to comply with the closure requirements listed in either the DEQ's or USACE's permit. If there are no permit closure requirements listed, KUCC (upon mine closure) is requested to demolish site infrastructure associated with outfall No. 007, characterize the site and perform any necessary remedial activities. Upon completion of this work, KUCC is requested to report to DERR on these activities. Upon receipt and review of these reports, DERR will reevaluate the site status.

(136) East Lake (ID#140.04): Historically this site provided water for the Arthur and Magna Mills (Dr. Hoffman, May 2002). According to a 1919 Bingham and Garfield Railroad map, East Lake was located near 2100 South and 4000 West (Dr. Hoffman, May 2002). Today the area is occupied by marshland and an industrial park. According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), this site was once used by a duck club to manage a hunting preserve. Currently, through a water right approved by the Division of Water Rights (DWR) KUCC collects clean water from the site to provide water to their process water circuit. Part of the historic site still exists and is part of the Stone Bridge Golf Course.

At this time, DERR is designating this site a final NFA status pursuant to the current use of the water body by KUCC. DERR suggests that KUCC provide the water right number for future reference by the division.

(137) Kersey Creek (ID#140.05): According to Dr. Hoffman (May 2002), Kersey Creek originates from springs located to the south and west of Lee Creek. Kersey Creek also receives discharged water from the Magna Wastewater Treatment Plant. The creek is reported to eventually discharge to the C-7 Ditch. According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), KUCC does not discharge into Kersey Creek nor is the creek water collected as make up process water. At this time, DERR is designating this site a final NFA status pursuant to the current use of the water body by KUCC.

(138) East C-7 Ditch (ID#140.06): According to Dr. Hoffman (May 2002), the East C-7 Ditch is called by several names, including the Reclaim Water Canal and the Clarification Canal. The ditch receives decant water from the tailings impoundment and returns the water to the ore processing operation. Dr. Hoffman (May 2002) states that the effluent from the canal is directed to the C-7 Ditch and Lower Lee Creek through the UPDES outfall No. 002. According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), the water from this permitted outfall is now redirected to the UPDES permitted outfall No. 007. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to maintain compliance with DWQ's UPDES permit restrictions. Upon mine closure, KUCC is requested to comply with the closure requirements listed in DWQ's permit. If there are no permit closure requirements listed, KUCC is requested to demolish site infrastructure, characterize the site and perform any necessary remedial activities. Upon completion of this work, KUCC is requested to report to DERR on these activities. Upon receipt and review of these reports, DERR will reevaluate the site status.

(139) Riter Canal (ID#140.07): According to Dr. Hoffman (May 2002), the Riter Canal is a drainage and irrigation canal that originates at 3800 West and SH 201, and then flows west paralleling the south side of SH 201. KUCC is reported to have the capacity to divert the water from the canal into the Reclaim Water Canal (East C-7 Ditch). According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), KUCC currently has the ability to take water from the Riter Canal, under an approved water right from the Division of Water Rights (DWR). Mr. Cherry stated that KUCC does not discharge to this surface water body. At this time, DERR is designating this site a final NFA status pursuant to the current use of the water body by KUCC. DERR suggests that KUCC provide the water right number for future reference by the division.

(140) Utah-Salt Lake Canal (ID#140.08): According to Dr. Hoffman (May 2002), the Utah-Salt Lake Canal is an irrigation diversion canal receiving water from Utah Lake. The canal also receives urban and agricultural run-off. KUCC is reported to use some of the water to make up water in the process water circuit. The remaining water is directed into the Riter Canal which flows into the East C-7 Ditch. According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), the canal water can be drawn by KUCC to collect make-up water for the process water circuit under an approved water right from the DWR. Mr. Cherry stated that to date, KUCC does not discharge water to the canal. At this time, DERR is designating this site a final NFA status pursuant to the current use of the water body by KUCC. DERR suggests that KUCC provide the water right number for future reference by the division.

(141) Right of Way Canal (ID#140.09): According to Dr. Hoffman (May 2002), the Right of Way Canal originates in the 4800 West block of I-80 and travels west along the northern frontage road of I-80. The canal is reported to merge with Lee Creek. According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), the canal is a source of irrigation water and supply water for the KUCC

process water circuit. KUCC, under an approved water right from the DWR, can draw water from the canal, but does not discharge to the canal. At this time, DERR is designating this site a final NFA status pursuant to the current use of the water body by KUCC. DERR suggests that KUCC provide the water right number for future reference by the division.

(142) Adamson Springs (ID#140.10): According to Dr. Hoffman (May 2002), the Adamson Springs is a series of contact springs located between the south edge of the tailings impoundment and SH 201, near the Diving Boards Tailings area (ID#104.00). Since the opening of the Magna Concentrator the water from the springs has been used for process water. The springs discharge into the tailings pond return canal where the waters are mixed with other run-off from the tailings impoundment and are pumped to the process water circuit at Pump #1. According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), this series of springs is a source of make-up water for the process circuit and the springs can be discharged through the UPDES permitted outfall No. 011. The majority of the flow is collected along the southeast side of the tailings impoundment.

At this time, DERR is designating this site a conditional NFA status pursuant to the current use of the water body by KUCC. DERR suggests that KUCC provide the water right number for future reference by the division. KUCC is further requested to maintain compliance with the UPDES permit restrictions for outfall No. 011. Upon mine closure, KUCC is requested to comply with the closure requirements listed in DWQ's permit. If there are no permit closure requirements listed, KUCC is requested to demolish site infrastructure associated with the collection and disposal of water, characterize the site and perform any necessary remedial activities. Upon completion of this work, KUCC is requested to report to DERR on these activities. Upon receipt and review of these reports, DERR will reevaluate the site status.

(143) Saltair and other Beach Resorts (ID#140.11): Overtime, the beaches along the Great Salt Lake (GSL) (located to the north, northeast, and northwest of the KUCC north end facilities) have been used by residents of the surrounding area for recreation. According to Dr. Hoffman (May 2002), historical and current resorts have been built on the shores of the GSL in these areas to serve the public using the area for recreation. According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), the site was part of an ecological and human health risk assessment performed by the Bureau of Reclamation (BOR) under the direct guidance of EPA. The assessment did not detect any risk to either the ecological or human receptors. Pursuant to the assessment report findings, DERR is designating this site a final NFA status.

(144) South Shore Boating and Ports (ID#140.12): According to Dr. Hoffman (May 2002), the GSL has been used for recreational swimming and boating since excursion parties reached the lake beginning around 1851. Many ports (Lake Point, Saltair, Fritch Island (Sunset Beach) were located along the southern shore of the GSL to service boating activities on the GSL. According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), the site was part of an ecological and human health risk assessment performed by the Bureau of Reclamation (BOR) under the direct guidance of EPA. The assessment did not detect any risk to either the ecological or human receptors. Pursuant to the assessment report findings, DERR is designating this site a final NFA status.

(145) New Kennecott Outfall 012 (ID#140.13): According to Dr. Hoffman (May 2002), during a UPDES permit renewal KUCC proposed to consolidate outfalls No. 001 and No. 002 (which were directed to the C-7 Ditch) into one outfall No. 012. Outfall No. 012 was proposed for direct discharge to the GSL. The water quality was suspected to be the same as the combined water of outfalls No. 1 and No. 2, except for an increase in salt. According to Dr. Hoffman (May 2002) KUCC began using the new outfall in January 2002. According to Mr. Jon Cherry, P.E. (KUCC,

Sept. 2002), KUCC currently discharges decant water and other process water through outfall No. 012. Mr. Cherry stated that KUCC continues to comply with the permit restrictions.

At this time, DERR is designating this site a conditional NFA status. KUCC is requested to continue to comply with DWQ's UPDES permit restrictions. Upon mine closure, KUCC is requested to comply with the closure requirements listed in the UPDES permit. If there are no permit closure requirements listed, KUCC is requested to demolish site infrastructure associated with the outfall, characterize the site and perform any necessary remedial activities. Upon completion of this work, KUCC is requested to report to DERR on these activities. Upon receipt and review of these reports, DERR will reevaluate the site status.

(146) I-80 Off Ramp (ID#140.14): According to Dr. Hoffman (May 2002), there are some wetlands located between the eastbound lane of I-80 and the off-ramp that approaches SH201. The wetlands are located within a UDOT right-of-way once owned by KUCC. According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), the ponds in the wetland were investigated as part of an ecological risk assessment. During the investigation, it was determined that no remedial action was necessary. Mr. Cherry also stated that currently KUCC does not discharge to this wetland area. At this time, DERR is designating this site a final NFA status.

(147) West C-7 Ditch (ID#140.15): According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), the West C-7 Ditch is within the permit area of outfall No. 008 and is covered by a UPDES permit. KUCC continues to meet the permit restrictions. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to maintain compliance with DWQ's UPDES permit restrictions. Upon mine closure, KUCC is requested to comply with the closure requirements listed in the UPDES permit. If there are no permit closure requirements listed, KUCC is requested to demolish site infrastructure, characterize the site and perform any necessary remedial activities. Upon completion of this work, KUCC is requested to report to DERR on these activities. Upon receipt and review of these reports, DERR will reevaluate the site status.

(148) East Side Wetlands (SU2) (ID#140.16): According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), this wetland area was investigated during an ecological risk assessment. During the assessment, elevated concentrations of selenium were detected in the wetland. Mr. Cherry stated that this area will continue to undergo monitoring to evaluate the selenium concentrations over time, as required by the North End Record of Decision (ROD). At this time, DERR is designating this site a conditional NFA status. KUCC is requested to comply with the monitoring requirements listed in the ROD. KUCC is also requested to continue in its efforts to successfully implement the ground water plume remedy to prevent the migration of the contaminated water. Upon successful implementation of the chosen remedy and attainment of the compliance standards, the site status will be reevaluated.

(149) Smelter Wetlands (IE#140.17): According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), this site is located west of the slag pile and was characterized during an ecological risk assessment performed in this area. Mr. Cherry stated that no particular contaminant was noted as particularly elevated, but that the concentrations were above accepted background concentrations. Mr. Cherry stated that the site will be monitored as required by the ROD. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to comply with the monitoring requirements listed in the ROD. KUCC is also requested to continue in its efforts to successfully implement the ground water plume remedy to prevent the migration of the contaminated water. Upon successful implementation of the chosen remedy and attainment of the compliance standards, the site status will be reevaluated.

(150) Garfield Wetlands (ID#141.01): The Garfield Wetlands includes: (1) area 1 located between SH201 and the Smelter Return Canal; (2) area 2 located between the Smelter Return Canal and the old mainline tracks; and (3) area 3 located between the old mainline tracks and the I-80 Pond. According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), KUCC has completed the soil and sediment removals in these three areas. The site will continue to be monitored pursuant to the selected remedy stated in the recent ROD. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to submit the remediation report for review by DERR. KUCC is requested to comply with the monitoring requirements listed in the ROD. KUCC is also requested to continue in its efforts to successfully implement the ground water plume remedy to prevent the migration of the contaminated water. Upon successful implementation of the chosen remedy and attainment of the compliance standards, the site status will be reevaluated.

(151) Marsh Area 1 (ID#141.011): According to Dr. Hoffman (May 2002), Marsh Area 1 is located just to the south of SH201, between the main entrance to the smelter on the east to the cobalt refinery entrance road on the west. The marsh area is approximately 3,000 feet long and approximately 180 feet wide. The COCs in the sediments of the marsh are summarized in the historic site background (pg. 267, May 2002). According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), KUCC has completed the sediment removal in this area. The site will continue to be monitored as required under the selected remedy provisions listed in the recent ROD. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to submit the remediation report for review by DERR. KUCC is requested to comply with the monitoring requirements listed in the ROD. KUCC is also requested to continue in its efforts to successfully implement the ground water plume remedy to prevent the migration of the contaminated water. Upon successful implementation of the chosen remedy and attainment of the compliance standards, the site status will be reevaluated.

(152) Marsh Area 2 (ID#141.012): According to Dr. Hoffman (May 2002), Marsh Area 2 is located just to the east of Praxair. The marsh is approximately 1,500 feet long and approximately 300 feet wide. The COCs in the sediments of the marsh are summarized in the historic site background (pg. 268, May 2002). According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), KUCC has completed the sediment removal in this area. The site will continue to be monitored as required under the selected remedy provisions listed in the recent ROD. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to submit the remediation report for review by DERR. KUCC is requested to comply with the monitoring requirements listed in the ROD. KUCC is also requested to continue in its efforts to successfully implement the ground water plume remedy to prevent the migration of the contaminated water. Upon successful implementation of the chosen remedy and attainment of the compliance standards, the site status will be reevaluated.

(153) Marsh Area 3 (ID#141.013): According to Dr. Hoffman (May 2002), Marsh Area 3 is located to the north of SH201, just west of Pond B and south of the Smelter Return Canal. The marsh is triangular in shape and is approximately 1,000 feet long. The main COC is arsenic. According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), KUCC has completed the sediment removal in this area. The site will continue to be monitored as required under the selected remedy provisions listed in the recent ROD. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to submit the remediation report for review by DERR. KUCC is requested to comply with the monitoring requirements listed in the ROD. KUCC is also requested to continue in its efforts to successfully implement the ground water plume remedy to prevent the migration of the contaminated water. Upon successful

implementation of the chosen remedy and attainment of the compliance standards, the site status will be reevaluated.

(154) Pond 1 (ID#141.014): According to Dr. Hoffman (May 2002), Pond 1 is located opposite Marsh Area 1 along SH201. Dr. Hoffman summarizes the COCs in the sediments of the pond, in the historic sites background (pg. 268, May 2002). According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), KUCC has completed the soil and sediment removal activities in this area. The site will continue to be monitored as required under the selected remedy provisions listed in the recent ROD. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to submit the remediation report for review by DERR. KUCC is requested to comply with the monitoring requirements listed in the ROD. KUCC is also requested to continue in its efforts to successfully implement the ground water plume remedy to prevent the migration of the contaminated water. Upon successful implementation of the chosen remedy and attainment of the compliance standards, the site status will be reevaluated.

(155) Pond 10a and 10b (ID#141.015): According to Dr. Hoffman (May 2002), Ponds 10a and 10b are located just west of Pond D. Both ponds have southern boundaries along the railroad grade recently abandoned. Pond 10a is approximately 1,000 feet long and 750 feet wide; Pond 10b is approximately 1,000 feet long and 180 feet wide. Dr. Hoffman summarizes the COCs in the sediments of the pond in the historic sites background (pg. 269, May 2002). According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), KUCC has completed the soil and sediment removal activities in this area. The site will continue to be monitored as required under the selected remedy provisions listed in the recent ROD. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to submit the remediation report for review by DERR. KUCC is requested to comply with the monitoring requirements listed in the ROD. KUCC is also requested to continue in its efforts to successfully implement the ground water plume remedy to prevent the migration of the contaminated water. Upon successful implementation of the chosen remedy and attainment of the compliance standards, the site status will be reevaluated.

(156) Pond 2 (ID#141.016): According to Dr. Hoffman (May 2002), Pond 2 is a small pond (approximately 375 feet long and 100 feet wide) located adjacent to I-80, opposite Black Rock and close to the railroad overpass. Dr. Hoffman summarizes the COCs in the sediments of the pond, in the historic sites background (pg. 269-270, May 2002). According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), KUCC has completed the soil and sediment removal activities in this area. The site will continue to be monitored as required under the selected remedy provisions listed in the recent ROD. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to submit the remediation report for review by DERR. KUCC is requested to comply with the monitoring requirements listed in the ROD. KUCC is also requested to continue in its efforts to successfully implement the ground water plume remedy to prevent the migration of the contaminated water. Upon successful implementation of the chosen remedy and attainment of the compliance standards, the site status will be reevaluated.

(157) Pond 3 (ID#141.017): According to Dr. Hoffman (May 2002), Pond 3 is just to the east of Pond 2, also adjacent to I-80. The pond is long and narrow, approximately 1,500 feet long and 100 feet wide. Dr. Hoffman summarizes the COCs in the sediments of the pond in the historic sites background (pg. 270, May 2002). According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), KUCC has completed the soil and sediment removal activities in this area. The site will continue to be monitored as required under the selected remedy provisions listed in the recent ROD. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to submit the remediation report for review by DERR. KUCC is requested to comply with the monitoring

requirements listed in the ROD. KUCC is also requested to continue in its efforts to successfully implement the ground water plume remedy to prevent the migration of the contaminated water. Upon successful implementation of the chosen remedy and attainment of the compliance standards, the site status will be reevaluated.

(158) Pond 4 (ID#141.018): According to Dr. Hoffman (May 2002), Pond 4 is located adjacent to I-80, just to the east of Pond 3. The pond is approximately 1,875 feet long and 500 feet wide. Dr. Hoffman summarizes the COCs in the sediments of the pond in the historic sites background (pg. 270, May 2002). According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), KUCC has completed the soil and sediment removal activities in this area. The site will continue to be monitored as required under the selected remedy provisions listed in the recent ROD. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to submit the remediation report for review by DERR. KUCC is requested to comply with the monitoring requirements listed in the ROD. KUCC is also requested to continue in its efforts to successfully implement the ground water plume remedy to prevent the migration of the contaminated water. Upon successful implementation of the chosen remedy and attainment of the compliance standards, the site status will be reevaluated.

(159) Sample Unit 1 (ID#141.019): According to Dr. Hoffman (May 2002), Sampling Unit 1 appears as a sampling area in the North End Remedial Investigation, Appendix J (2000). The area is located just to the south of Pond D, along the south line of the former main line railroad tracks. Dr. Hoffman summarizes the COCs in the soils and sediments of this area in the historic sites background (pg. 271, May 2002). According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), KUCC has completed the soil and sediment removals in this area. The site will continue to be monitored as required under the selected remedy provisions listed in the recent ROD. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to submit the remediation report for review by DERR. KUCC is requested to comply with the monitoring requirements listed in the ROD. KUCC is also requested to continue in its efforts to successfully implement the ground water plume remedy to prevent the migration of the contaminated water. Upon successful implementation of the chosen remedy and attainment of the compliance standards, the site status will be reevaluated.

(160) Wetlands Landfill (ID#141.019a): According to Dr. Hoffman (May 2002), a historic landfill was uncovered in the northeast corner of the Garfield Wetlands. Visual observations of the site detected the presence of crucibles. The landfill was removed from the wetlands and the material was placed in the Arthur Step-back Repository. The site is reported to have been cleaned up under the Wetlands Landfill site (ID#WL04). Post-reclamation samples detected a maximum concentration of arsenic of 38.9 ppm, lead of 84.1 ppm, cadmium of 2.0 ppm, and selenium of 8.7 ppm (KUCC's *North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B - Summation Report* dated May 2002).

According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), KUCC has completed the soil and sediment removals in this area. The site will continue to be monitored as required under the selected remedy provisions listed in the recent ROD. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to comply with the monitoring requirements listed in the ROD. KUCC is also requested to continue in its efforts to successfully implement the ground water plume remedy to prevent the migration of the contaminated water. Upon successful implementation of the chosen remedy and attainment of the compliance standards, the site status will be reevaluated.

(161) Garfield Wells (a.k.a. Garfield Wellfield Site) (ID#141.02, a.k.a. WL05): KUCC's North Facilities Soils and Wastewater Treatment Plant Ponds Site Removal Action SSID #4B – Summation Report dated May 2002, states that analysis of the post-removal soil samples determined that all contaminated soils with elevated concentrations of the COCs were removed. No post-reclamation activities were pursued. At this time, DERR is designating this site a conditional NFA status. KUCC is requested to continue in its efforts to successfully implement the ground water plume remedy to prevent the migration of the contaminated ground water. Upon successful implementation of the chosen remedy and attainment of the compliance standards, the site status will be reevaluated.

(162) Springs (ID#141.03): Individual springs are listed below. Each site is designated an individual site status. Please refer to the individual sites.

(163) Spitz Springs (ID#141.031): According to Dr. Hoffman (May 2002), Spitz Springs was known as Toronto Springs. The springs were named after Toronto Cave known today as Dead Man's Cave. The springs are located north of Sludge Pond C and south of the railroad tracks along the western base of the tailings impoundment. Dr. Hoffman summarizes the COCs in the soils of this spring in the historic sites background (pg. 271-272, May 2002). According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), the water from this spring is collected at times to be used in the process circuit. KUCC can discharge the spring water through outfall No. 012 under a UPDES permit.

At this time, DERR is designating this site a conditional NFA status. KUCC is requested to maintain compliance with the UPDES permit restrictions for outfall No. 012. Upon mine closure, KUCC is requested to comply with the closure requirements listed in the UPDES permit. If there are no permit closure requirements listed for this site, KUCC is requested to demolish site infrastructure associated with the collection and disposal of water, characterize the site and perform any necessary remedial activities. Upon completion of this work, KUCC is requested to report to DERR on these activities. Upon receipt and review of these reports, DERR will reevaluate the site status.

(164) Japanese Springs (ID#141.032): According to Dr. Hoffman (May 2002), the Japanese Springs has a flow of approximately 50 to 100 gpm with the following water chemistry: arsenic of 141 ppb, cadmium of <1 ppb, copper of 34 ppb, and lead of <5 ppb. The spring is located west of the smelter entrance and south of SH201. The spring feeds a small wetland. According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), the water from the spring is collected at times to be used in the process circuit. KUCC can discharge the water through outfall No. 004 under a UPDES permit.

At this time, DERR is designating this site a conditional NFA status. KUCC is requested to maintain compliance with the UPDES permit restrictions for outfall No. 004. Upon mine closure, KUCC is requested to comply with the closure requirements listed in the UPDES permit. If there are no permit closure requirements listed for this site, KUCC is requested to demolish site infrastructure associated with the collection and disposal of water, characterize the site and perform any necessary remedial activities. Upon completion of this work, KUCC is requested to report to DERR on these activities. Upon receipt and review of these reports, DERR will reevaluate the site status.

(165) Springs 3-5 (ID#141.033): According to Dr. Hoffman (May 2002), Springs 3-5 have intermittent flows of approximately 0 to <5 gpm with the following water chemistry: arsenic of 141 ppb, cadmium of <1 ppb, copper of 387 ppb, and lead of <5 ppb. Springs 3-5 are located in

the lower Kessler Canyon area along the slag bluff below the smelter. According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), the water from the spring is collected at times to be used in the process circuit. KUCC can discharge the water through outfall No. 008 under a UPDES permit.

At this time, DERR is designating this site a conditional NFA status. KUCC is requested to maintain compliance with the UPDES permit restrictions for outfall No. 008. Upon mine closure, KUCC is requested to comply with the closure requirements listed in the UPDES permit. If there are no permit closure requirements listed for this site, KUCC is requested to demolish site infrastructure associated with the collection and disposal of water, characterize the site and perform any necessary remedial activities. Upon completion of this work, KUCC is requested to report to DERR on these activities. Upon receipt and review of these reports, DERR will reevaluate the site status.

(166) No Name Spring (ID#141.034): According to Mr. Tom Nanini (KUCC, Sept. 2002), this spring is located halfway between the tailings impoundment and the smelter. According to Mr. Jon Cherry, P.E. (KUCC, Sept. 2002), the water from the spring is collected at times to be used in the process circuit. KUCC can discharge the water through outfall No. 008 under a UPDES permit.

At this time, DERR is designating this site a conditional NFA status. KUCC is requested to maintain compliance with the UPDES permit restrictions for outfall No. 008. Upon mine closure, KUCC is requested to comply with the closure requirements listed in the UPDES permit. If there are no permit closure requirements listed for this site, KUCC is requested to demolish site infrastructure associated with the collection and disposal of water, characterize the site and perform any necessary remedial activities. Upon completion of this work, KUCC is requested to report to DERR on these activities. Upon receipt and review of these reports, DERR will reevaluate the site status.

(167) Kessler Spring (ID#141.035): Kessler Spring water has a high concentration of selenium. Currently the water is collected and treated by running it through the process water circuit. When the ground water treatment strategy is implemented, it should gradually reduce the concentration of selenium in the water. At this time, DERR is designating this site a conditional NFA pursuant to the implementation of the ground water treatment system and other requirements described in the recent ROD. KUCC is also requested to maintain compliance with DWQ's permit restrictions.

(168) Railroad Right Of Ways (ID#145.00): This site consists of the main ore haulage line from the Ore Reload Station west of Copperton to the Bonneville Crusher on the north end near Magna and all of the sub-lines between various facilities in Copperton and in Magna. Over the years, the rail line has been used to ship copper ore from the Bingham Pit to the Bonneville Crusher, anodes from the smelter to the refinery, and scrap anodes from the refinery to the smelter. The rail line system has been and is used to transport copper concentrate, copper cathodes and sulfuric acid from local siding tracks associated with various process facilities, to local siding tracks (for shipment) near the Union Pacific line north of the KUCC operations. Over the years there have been numerous spills caused by train accidents, of which not all have been thoroughly researched. KUCC does take a vigilant stance on reporting these incidents and following up the investigation with the appropriate remedial response. The main line and sub-line beds are mostly composed of slag, suspected to have originated from the Garfield Smelter. A KUCC letter dated January 7, 2000, addresses the leachability of this slag. The slag was determined to not be leachable.

The rail line and a few sub-lines were inspected during a site tour in April 2002. DERR at that time determined that the site would remain open under the EOA project. KUCC is requested, at this time, to maintain the rail lines and continue to report to the appropriate agency any spills that take place. Please copy DERR on these spill reports for tracking purposes. KUCC is requested to determine the status of site soils in areas where spills have taken place to determine if remediation is necessary. If remedial activities are pursued KUCC is requested to report to DERR on the activities performed. DERR is aware of KUCC's desire to leave portions of the rail line operable after mine closure. At that time, KUCC is requested to contact and work with DERR to determine if there are any environmental concerns to contend with based upon the proposed land use. Upon cessation of operations and the submission of required reports for review by DERR, DERR will reevaluate the site status.

(169) Truck and Rail Maintenance Yards (ID#146.00): In a letter dated October 5, 1998 DERR designated this site a conditional NFA status, based upon the continued compliance by KUCC with DWQ's and DERR's permit programs. DWQ oversees the cleanup of spills that affect surface water or ground water, as well as permits the Eastside Collection System, of which this facility is located upgradient. DERR oversees the use of underground storage tanks and provides the cleanup requirements for spills. At this time, DERR is extending the conditional NFA action status for this site. KUCC is requested to continue to correctly manage spills at the facility when they take place pursuant to the KUCC Spill Prevention, Control and Countermeasures (SPCC) plan. KUCC is also requested to maintain compliance with the permit restrictions from DWQ and DERR.

(170) Smelter Area Employees Parking Lot (ID#146.000b): In a letter dated September 11, 1998 DERR designated this site a final NFA status because site soils were not impacted by the release of slag concentrate thickener and no exposure concerns were discernible. At this time, the site designation will remain the same.